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No. 328—Letter dated October 14, 1926, from Z. Phelps to John Pratt (GMC)	1561	3845
No. 329—Letter dated October 19, 1926, from J. L. Pratt to Z. Phelps (du Pont)	1562	3846
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No. 620—Agreement dated January 7, 1924, between General Motors Chemical Company and Standard Oil Company	2039	4319
No. 621—Memorandum dated June 15, 1923, from F. W. Pickard (du Pont) to Irene du Pont	2053	4333
No. 622—Letter dated January 28, 1924, from Alfred P. Sloan, Jr. to Irene du Pont	2057	4337
No. 623—Letter dated February 2, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2060	4340
No. 624—Letter dated February 5, 1924, from Alfred P. Sloan, Jr. to Irene du Pont	2062	4342
No. 625—Letter dated January 12, 1924, from "President" (GMC) to Irene du Pont	2067	4347
No. 626—Communication dated January 14, 1924, from Irene du Pont to W. F. Harrington	2068	4348
No. 628—Communication dated January 14, 1924, from Irene du Pont to Executive Committee	2069	4349
No. 630—Letter dated January 18, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2070	4350
No. 631—Letter dated September 8, 1924, signed "Ket" to A. P. Sloan, Jr.	2071	4351
No. 640—Letter dated October 10, 1924, from Fin Sparre, Director to Inspector General Militaire Patart	2072	4352
No. 641—Letter dated December 27, 1924, initialled APS Jr to Irene du Pont	2073	4353
No. 642—Letter dated December 30, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2074	4354
No. 647—Letter dated April 8, 1925, from Thomas Midgley, Jr. (Ethyl Gasoline Corporation) to Irene du Pont	2076	4356
No. 648—Letter dated April 9, 1925, from Irene du Pont to Thomas Midgley, Jr.	2078	4358
No. 657—Telegram dated June 5, 1924, from C. F. Kettering to A. P. Sloan	2080	4360
No. 659—Communication dated June 5, 1924, from P. S. du Pont for attention of Alfred P. Sloan, Jr.	2081	4361
No. 660—Letter dated June 26, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2083	4363
No. 661—Letter dated June 27, 1924, from Alfred P. Sloan, Jr. to Irene du Pont	2085	4365
No. 662—Communication dated June 30, 1924, from Irene du Pont to W. F. Harrington	2088	4368
No. 663—Letter dated June 30, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2089	4369
No. 664—Letter dated July 8, 1924, from Alfred P. Sloan, Jr. to Irene du Pont	2091	4371
No. 665—Extract from Minutes of Meeting of Executive Committee (GMC) February 27, 1924	2094	4374

## Government Exhibits:

	Original	Print
No. 666—Letter dated July 25, 1924, initialled APSJr to C. F. Kettering	2096	4376
No. 667—Extract from Minutes of Meeting of Finance Committee (GMC) August 27, 1924	2101	4381
No. 668—Agreement dated August 1, 1924, between General Motors Corporation and Standard Oil Company	2103	4383
No. 670—Copy of bill of sale dated August 28, 1924, from General Motors Company to Ethyl Gasoline Corporation	2147	4427
No. 672—News release dated August 15, 1924, "Ethyl Gasoline Corporation Organized"	2150	4430
No. 673—Memorandum of Conference August 11, 1924, between P. S. du Pont, et al., and A. P. Sloan, Jr., et al.	2154	4434
No. 675—Agreement dated October 10, 1924, between E. I. du Pont de Nemours and Company and Ethyl Gasoline Corporation	2156	4436
No. 676—Memorandum of meeting of Board of Directors of Ethyl Gasoline Corporation December 23, 1924	2165	4443
No. 677—Letter dated March 28, 1925, from Frank A. Howard to Irene du Pont	2167	4447
No. 678—Letter dated March 28, 1925, from A. P. Sloan, Jr., to Irene du Pont	2172	4452
No. 679—Letter dated April 3, 1925, from Irene du Pont to Frank Howard (Ethyl Gasoline Corporation)	2176	4456
No. 680—Letter dated April 10, 1925, initialled APSJr to Irene du Pont	2179	4459
No. 681—Letter dated May 21, 1925, from E. W. Webb (Ethyl Gasoline Corp.) to Irene du Pont	2180	4460
No. 682—Letter dated May 22, 1925, from Irene du Pont to John J. Raskob	2184	4464
No. 683—Letter dated June 9, 1925, from Irene du Pont to E. W. Webb (Ethyl Gasoline Corp.)	2185	4465
No. 684—Letter dated June 12, 1925, from A. E. Mittenacht (Ethyl Gasoline Corporation) to Alfred P. Sloan, Jr.	2188	4468
No. 685—Letter dated June 27, 1925, from E. W. Webb (Ethyl Gasoline Corporation) to Alfred P. Sloan, Jr.	2190	4470
No. 686—Letter dated June 29, 1925, from Frank A. Howard (Standard Oil Company) to E. W. Webb (Ethyl Gasoline Corporation)	2195	4475
No. 687—Communication dated June 30, 1925, from W. S. Carpenter, Jr. to Irene du Pont	2199	4479
No. 688—Letter dated July 1, 1925, read by Irene du Pont to E. W. Webb (Ethyl Gasoline Corporation)	2200	4480



## Government Exhibits:

	Original	Print
No. 690—Letter dated July 27, 1925, from E. W. Webb (Ethyl Gasoline Corporation) to Irene du Pont	2202	4482
No. 691—Letter dated August 6, 1925, from E. W. Webb (Ethyl Gasoline Corporation) to Alfred P. Sloan, Jr.	2207	4487
No. 692—Letter dated August 7, 1925, initialled APSJr to Earle W. Webb (Ethyl Gasoline Corporation)	2208	4488
No. 693—Letter dated August 12, 1925, from E. W. Webb (Ethyl Gasoline Corporation) to Alfred P. Sloan, Jr.	2207	4491
No. 694—Letter dated March 10, 1925, from A. M. Maxwell (Ethyl Gasoline Corporation) to Donaldson Brown (GMC)	2214	4494
No. 695—Communication dated March 16, 1925, from Donaldson Brown to Finance Committee	2216	4496
No. 696—Communicated dated April 13, 1925, from C. D. Hartman, Jr. (GMC) for attention of Donaldson Brown	2217	4497
No. 697—Extract from Minutes of Meeting of Finance Committee (GMC) April 13, 1925	2218	4498
No. 698—Extract from Minutes of Meeting of Finance Committee (GMC) April 27, 1925	2219	4499
No. 699—Extract from Minutes of Meeting of Finance Committee (GMC) June 1, 1925	2220	4500
No. 700—Extract from Minutes of Meeting of Finance Committee (GMC) July 24, 1925	2221	4501
No. 702—Letter dated May 7, 1925, from Irene du Pont to E. W. Webb (Ethyl Gasoline Corporation)	2222	4502
No. 703—Letter dated January 26, 1926, from Alfred P. Sloan, Jr. to Earle W. Webb (Ethyl Gasoline Corporation)	2223	4503
No. 704—Letter dated February 8, 1926, initialled APSJr to Irene du Pont	2225	4505
No. 705—Letter dated February 10, 1926, from Irene du Pont to Alfred P. Sloan, Jr.	2230	4510
No. 706—Agreement dated March 31, 1926, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2232	4512
No. 708—Letter dated December 3, 1924, from Irene du Pont to Alfred P. Sloan, Jr.	2246	4526
No. 709—Letter dated December 4, 1924, from Alfred P. Sloan, Jr. to Irene du Pont	2248	4528
No. 710—Letter dated December 12, 1924, initialled APSJr to Irene du Pont	2250	4530
No. 711—Letter dated June 2, 1926, from Irene du Pont to E. W. Webb (Ethyl Gasoline Corporation)	2252	4532

## Government Exhibits:

	Original	Print
No. 712—Extract from Minutes of Meeting of Executive Committee (GMC) December 30, 1924	2254	4534
No. 713—Extract from Minutes of Meeting of Executive Committee (GMC) January 5, 1925	2256	4536
No. 714—Cable dated March 22, 1926, from London Office (du Pont) to Irene du Pont	2257	4537
No. 715—Letter dated June 8, 1926, from Irene du Pont to Alfred P. Sloan, Jr.	2259	4539
No. 716—Interoffice communication dated June 25, 1926, (Ethyl Gasoline Corporation) transmitting suggested form of letter to I. G. Farbenindustrie, A. G.	2262	4542
No. 717—Letter dated July 24, 1926, from "President" to A. P. Sloan, Jr.	2266	4546
No. 718—Communication dated November 18, 1926, from Irene du Pont to Lamot du Pont	2267	4547
No. 720—Letter dated January 11, 1927, from E. W. Webb to Alfred P. Sloan, Jr.	2269	4549
No. 721—Letter dated January 11, 1927, initialled ES to Frank A. Howard	2270	4550
No. 722—Letter dated December 22, 1926, from I. G. Farbenindustrie Aktiengesellschaft to Frank A. Howard (Standard Development Company)	2271	4551
No. 723—Agreement dated January 10, 1927, between I. G. Farbenindustrie Aktiengesellschaft and Ethyl Gasoline Corporation	2276	4556
No. 745—Agreement dated March 31, 1928, between E. I. du Pont de Nemours and Company and Ethyl Gasoline Corporation	2279	4559
No. 746—Agreement dated October 1, 1928, between E. I. du Pont de Nemours and Company and Ethyl Gas Line Corporation	2285	4565
No. 747—Agreement dated August 26, 1929, between Ethyl Gasoline Corporation and E. I. du Pont de Nemours and Company	2290	4570
No. 748—Letter dated March 28, 1930, from Alfred P. Sloan, Jr. to Earle W. Webb (Ethyl Gasoline Corporation)	2297	4577
No. 749—Letter dated April 3, 1930, from E. W. Webb (Ethyl Gasoline Corporation) to Alfred P. Sloan, Jr.	2299	4579
No. 750—Letter dated April 5, 1930, from Alfred P. Sloan, Jr. to Earle W. Webb (Ethyl Gasoline Corporation)	2302	4582
No. 751—Letter dated April 18, 1930, from Alfred P. Sloan, Jr. to Lamot du Pont	2305	4585
No. 752—Memorandum of Agreement dated February 26, 1930, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2308	4588

## Government Exhibits:

	Original	Print
No. 753--Memorandum of Agreement dated September 26, 1931, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2315	4595
No. 754--Memorandum of Agreement dated August 18, 1933, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2322	4602
No. 755--Supplemental Agreement dated December 22, 1933, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2330	4610
No. 756--Agreement dated May 29, 1930, between E. I. du Pont de Nemours & Company and Ethyl Ethyl Gasoline Corporation	2335	4615
No. 757--Agreement dated August 24, 1934, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2341	4621
No. 758--Agreement dated December 20, 1935, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2349	4629
No. 759--Agreement dated July 1, 1936, between E. I. du Pont de Nemours & Company and Ethyl Gasoline Corporation	2356	4636
No. 762--Letter dated July 17, 1931, from Alfred P. Sloan, Jr. to Lammot du Pont	2363	4643
No. 763--Letter dated July 22, 1931, from "President" to Alfred P. Sloan	2365	4645
No. 764--Letter dated July 28, 1931, from Alfred P. Sloan, Jr. to Lammot du Pont	2367	4647
No. 766--Letter dated February 25, 1932, from L. du Pont to Alfred P. Sloan, Jr.	2370	4649
No. 767--Letter dated February 27, 1932, initialled APS Jr to Lammot du Pont	2371	4651
No. 768--Letter dated September 15, 1933, from E. G. Robinson (du Pont) to Mr. A. E. Mittnacht (Ethyl Gasoline Corporation)	2375	4655
No. 769--Letter dated September 20, 1933, from "President" to Alfred P. Sloan, Jr.	2379	4658
No. 770--Letter dated September 19, 1933, from A. E. Mittnacht (Ethyl Gasoline Corporation) to E. G. Robinson (du Pont)	2380	4659
No. 773--"Origins and Early History of the Tetraethyl Lead Business" from N. P. Wescott to F. Sparre, Director, dated June 9, 1936	2384	4663
No. 774--Appendices to foregoing report	2454	4733



3833

November 17, 1925.

Mr. H. Fletcher Brown, Vice Pres.,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

My dear Mr. Brown:-

Replying to your letter of November 13th regarding the use of alcohol vs. glycerin as an anti-freeze mixture in automobile radiators, would state that the subject came up in the way of general information before our General Technical Committee the other day and, as I take it, the glycerin people have lined their situation up so that they apparently are able to offer something which compares, from the economic standpoint, fairly well with alcohol; at least that, as I recollect it, is the impression I took away from the meeting.

As a corporation, we do not usually take any position in matters of this kind; i.e., as a corporation we are concerned of course, with seeing that our cars give satisfaction and I think our position would be in this particular thing that although we would like to be helpful, yet we could not consistently refuse to say that glycerin was satisfactory if it was simply because friends of ours, like your good selves, were interested in the alcohol side of the argument. We must, of course, be guided by the facts in the case. Therefore, I do not see how we really could, unless we did something unusual, be very helpful in this particular situation.

If your good selves or the Kentucky Alcohol Corporation could give us any technical information which would be helpful in developing any facts which would enable us to deal with the matter on its merits in favor of alcohol, then of course that would be an entirely different matter. I would suggest that perhaps that might be possible and there might be something that we had overlooked in our analysis of the situation.

There is one very important consideration which it appears to me has got to be dealt with and that is, I am informed that when alcohol is used it has a very bad reaction on the Duco finish. Of course, in view of the fact that we use Duco practically exclusively, it means that it has a bad affect on all our cars, wherever it is used. That in itself would appear to almost place us in a position

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Page 42,  
Mr. E. Fletcher Brown,  
November 17, 1925.

where we would have to perhaps not intentionally, but through necessity  
and in our interests as well as yours, favor glycerin as against alcohol.

Will you kindly think the above points over and  
advise me further regarding same.

Very truly yours,

APGJr./K

NOTE: Initials in routing stamp at lower right on first page are: "A.P.S.",  
"J.L.P.", "H.M.C.", "F.C.H.", "A.K.H.", "L.R.B.", "A.T.B." and "W.F.A."

3835

January 11, 1926.

Mr. F. LaMotte, Jr.,  
Director of Purchases,  
E.I. du Pont de Nemours & Co.,  
Wilmington, Delaware.

Dear Ferd:

I have your letter of January 8th in regard to non-freeze mixture s for automobile radiators.

I believe our people have concluded that the mixture called "Prestone"—made by the Union Carbide Company—is the most satisfactory anti-freeze mixture on the market. I know that our Research Corporation recently made a study of anti-freeze mixtures and as a result of this study we are recommending the use of "Prestone". I am also advised that the Yellow Cab operating companies are using this mixture.

I don't know whether or not this combination contains glycerine, but the next time I am in Detroit I will try to get the true dope and let you have whatever part of it that may be of interest to you.

Very truly yours,

Vice President.

JLP:V

NOTE: "G. M. C.—Products—Supplies & Materials—Anti-Freeze Mixture", followed by illegible initials, is written across top of page; check mark appears above "8th" in first line.



3836

January 22, 1926

Mr. J. B. Jackson:

The duPont Company are very much exercised by the increased use of glycerine as an anti-freeze mixture for automobile radiators. They claim that the price of glycerine has advanced considerably and they think it is due to the increased use of this material as an anti-freeze mixture.

I know that the Research Corporation in recent months made a study of various anti-freeze mixtures of glycerine, alcohol, and the new mixture brought out by the Union Carbide Company which I think is glyacol.

Won't you please look into this subject and have for me, when I get in Detroit next week, any information that the Research Corporation may have as to the amount of glycerine and alcohol that is being used as anti-freeze mixtures, together with their opinion as to the relative merits of alcohol, glycerine, and glyacol.

.....  
Vice President

JLP:V

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NOTE: "G. M. C.—Products—Supplies & Materials—Anti Freeze Mixture", followed by illegible initials, is written across top of page.

## GENERAL MOTORS CORPORATION

INTER-ORGANIZATION LETTERS ONLY

January 28, 1926

SUBJECT

FROM

J. B. Jackson

ADDRESS

TO

Mr. John L. Pratt

ADDRESS

A. P. S.	
J. L. P.	
L. R. H.	

My understanding is that you have the information you wanted, concerning the merits and usage of glycerine as an anti-freeze agent.

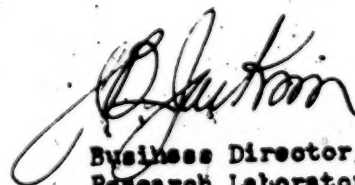
Glycerine and glycol are gaining favor very rapidly and have caused a shortage of this commodity. The Carbide and Carbon Chemicals Company are reported to be increasing their capacity 800 % for next season. They market glycol under the trade name of "Prestone."

Proctor and Gamble, Armour and Lever Bros. have been quite active in popularising the use of glycerine for anti-freeze purposes. They make many claims in which the Research Section concurs. These claims are, that the finish, Duco, now used very extensively, is spoiled by alcohol but not by glycerine, that alcohol will volatilize rapidly at engine temperatures and glycerine does not, with the result that, unless alcohol is replaced from time to time, there is serious danger of a weak mixture and frozen motors. It is reckoned that, during the season, the necessary additions of alcohol bring the cost of the alcohol mixture up to or above the cost of a glycerine mixture.

The claim that the glycerine mixture has a viscosity that interferes with circulation seems to have no merit.

We would suggest to the duPont Company, if they have not them, the following reports and literature:

- "Distilled Glycerine as an Anti-Freeze for Automobile Radiators", prepared by Proctor & Gamble, Chemical Division,
- "Prestone, Ethylene Glycol - The Scientific Anti-Freeze for Automobiles", by the Carbide and Carbon Chemicals Corporation, 30 East 42nd St., New York, the date of this report being Sept. 1, 1925.
- Chemical & Metallurgical Engineering for January, 1926, pages 25, 55, 59 and 60.
- Industrial and Engineering Chemistry, News Edition, January 20, 1926, page 1.



Business Director,  
Research Laboratories.

JBJ:CLM

3838



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE  
DEVELOPMENT DEPARTMENT

March 23, 1926

Mr. John Pratt, Vice President  
General Motors Corporation  
57th & Broadway  
New York

Dear Mr. Pratt:

At the suggestion of Dr. Sparre, I am writing you to learn whether you can give us any information relative to the merits of ethylene glycol when used as an anti-freeze mixture in the radiators of automobiles.

Confidentially the du Pont Company is interested in ethylene glycol as a raw material for dynamite and we wish to consider the advisability of producing ethylene glycol by a process which we have developed. Therefore we are now making a commercial study of ethylene glycol and in this connection we are keenly interested to learn more about the potential market for this product. Apparently the sale of ethylene glycol for anti-freeze purposes may offer an outlet for considerable volume and it will be helpful if we can learn how the General Motors people feel about the future use of ethylene glycol for anti-freeze purposes.

No doubt your people are familiar with the comparative tests made by the U.S. Bureau of Standards with alcohol, glycerin and ethylene glycol and you have probably made some tests for your own account so that you can give us an opinion as to the future use of ethylene glycol in radiators. As far as you know, does ethylene glycol have any properties which make it undesirable for use as an anti-freeze mixture?

This past winter the only ethylene glycol which was available for anti-freeze purposes was a product manufactured by the Carbide & Carbon Chemicals Corporation under their trade name "Prestone". Prestone was available in very limited quantities and sold to the consumer at not less than \$3 per gallon.

Do you know what has been the experience of the automobile owners who used glycerin and ethylene glycol instead of alcohol during the past winter?



-2-

I might also state that the du Pont Company is now entering into the production of ethyl alcohol for industrial use and we are also interested to learn to what extent the future use of denatured alcohol for anti-freeze will be curtailed as the result of the use of ethylene glycol and glycerine.

Obviously the difference in price between glycol and alcohol will have some bearing upon the consumption and we would like to get your opinion as to whether this will be an important factor. We expect Prestone to be sold this coming winter to the consumer at about \$3.50 per gallon, while denatured alcohol will be sold at prices ranging from \$.60 to \$1 per gallon. The 1926 price which the garages will probably pay for alcohol in drums will be about \$.40 to \$.45 per gallon.

Any information you can give us on this subject will be very helpful and greatly appreciated.

Very truly yours,

*J. Phelps*  
DEVELOPMENT DEPARTMENT

ZP:M

1555

E

3840

April 3, 1926.

Mr. Z. Phelps,  
Development Dept.  
E. I. duPont deNemours & Co.,  
Wilmington, Delaware.

Dear Mr. Phelps:

Referring to your letter of March 23rd, in regard to Ethylene Glycol when used as an anti-freeze mixture in radiators of automobiles.

Mr. Ferd. LaMotte, Jr., wrote me on January 8th regarding this subject, and I am enclosing herewith copy of my letter dated February 2nd in reply thereto.

The only thing I can add to this is that I understand the Yellow Cab Company of Chicago used Ethylene Glycol during the past winter and are very well pleased with it. However, there is a question whether the average consumer would be willing to pay \$2.00 or \$3.00 per gallon for Ethylene Glycol as compared with alcohol at 60¢ to \$1.00, notwithstanding that alcohol has to be renewed, due to evaporation, while glycerin or Ethylene Glycol can be used year after year if the automobile owner will conserve it.

As pointed out in my letter to Mr. LaMotte, glycerin and Ethylene Glycol solutions are more satisfactory from an engineering standpoint on account of the effect on Duco paint, as alcohol when it boils over ruins the paint; also because it permits the engine to operate at more normal temperature. With the present fuels the temperature of boiling water seems to be more satisfactory for engine operation.

Years ago when commercial gasoline was more volatile the operating temperature of 160 to 170 was considered the best operating temperatures. Today most engineers feel that 200 to 212 Fahrenheit is more satisfactory for operating temperatures.

Very truly yours,

Vice President.

JLP:V  
enc.

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NOTE: "G.M.C.—Products—Supplies & Materials—Anti-Freeze Mixture", followed by illegible initials is written across top of page; check mark appears over "23rd" in first line.



3842

August 23, 1926.

Mr. O. E. Hunt, Chief Engineer,  
Chevrolet Motor Company,  
Detroit, Michigan.

My dear O.E.

Dealing with yours of the 10th relative to Mr. Traut-  
man's letter of June 23rd and to the discussion of the Tech-  
nical Committee relative to same, would state that I have  
written Mr. Trautman and think it will cover the matter  
satisfactorily.

Curiously enough, I have recently received a letter  
from Armour & Company, who apparently are interested in  
the manufacture and distribution of glycerine, taking excep-  
tion to our position and claim we are discriminating against  
glycerine, a fact which I have not been able to substantiate  
as yet.

Regarding your instruction book, frankly, I would sug-  
gest that when opportunity presents itself, you cut out the  
words "are to be preferred" in the second paragraph under  
'Winter Driving' and simply state the facts. It seems to me  
that if we indicate a preference we are discriminating  
against some manufacturers and distributors and all that  
sort of thing, all of whom are potential users of General  
Motors products. It is all very well, I believe, to state  
that alcohol evaporates and glycerine doesn't; that alcohol  
is likely to cause damage and glycerine is not; that alcohol  
is much cheaper and glycerine is much more expensive.  
Let us submit all that to our users, but let them judge which

is most preferable after listening to the facts. Don't you think that is the best way to do it?

With regard to 'dope fuels', I agree with you that that paragraph ought to be rewritten. I would suggest that when the Technical Committee has before it the experience of the divisions on the tests, that we frame up a statement and adopt it as a Corporation policy and that our Engineering Departments put it in to their respective instruction books as they might desire. It is important, not only in view of ethyl gas but these other anti-knock fuels, that we deal with the matter constructively and I think also that before we can do all this we shall have to deal with it from the standpoint of high compression as well and take some position one way or the other.

—2—

Anyway, let's bring it up and discuss it. In the meantime I think it might be feasible to modify your statement if you have new instructions going into the territory, or if not, let it ride along until we can settle it once and for all.

Very truly yours,

APSJr./K

3844

# CHEVROLET MOTOR COMPANY

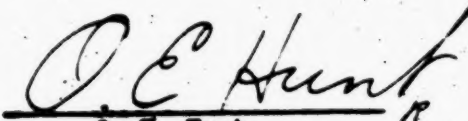
INTER-ORGANIZATION LETTERS ONLY Sept. 1, 1926.

TO Mr. A. P. Sloan, Jr., ADDRESS  
FROM Mr. O. E. Hunt. ADDRESS  
SUBJECT

We have eliminated the paragraph expressing preference for glycerine as an anti-freeze solution from our instruction book in the issue just going to press.

I am asking Mr. W. J. Davidson to bring the matter of a uniform statement on "doped fuels" in the instruction books of all divisions of the Corporation before the Technical Committee.

This in answer to your note of August 23rd.

  
O. E. Hunt,  
Chief Engineer.

NOTE: Bottom-initials in routing stamp read: "W.F.A."

1560



3815

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE  
DEVELOPMENT DEPARTMENT

October 14, 1928.

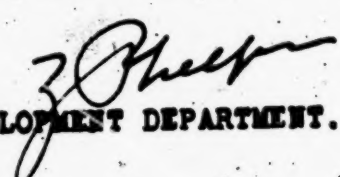
Mr. John Pratt,  
Vice Pres., General Motors Corp.,  
57th & Broadway,  
New York City.

Dear Mr. Pratt:

We wanted to advise you that the du Pont Company is now engaged in the manufacture of ethyl alcohol for industrial purposes. While we understand that the General Motors requirements of alcohol are not particularly large, we would like very much to have the opportunity to quote your company, or any of its subsidiaries, at any future time when they are in the market to purchase alcohol. It may be probable that during the winter months some alcohol is used in the radiators for anti-freeze purposes when testing out automobiles.

If the Delco people use alcohol we would also like to have the opportunity to supply them.

Yours very truly,

  
DEVELOPMENT DEPARTMENT.

NOTE: Illegible initial is written in upper right corner.



3846

October 19, 1926

Mr. Z. Phelps,  
Development Department  
E. I. duPont de Nemours & Company  
Wilmington, Delaware

Dear Mr. Phelps:

Answering yours of October 14th in regard to ethyl alcohol, I would suggest that you take this matter up with Mr. James Lynah, Executive Secretary of our General Purchasing Committee in Detroit. There are representatives of the various divisions on this committee and in this way you can have the matter brought to the attention of the Purchasing Departments of the various divisions.

Yours very truly,

J. L. PRATT  
Vice President

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NOTE: "G.M.C.—Products—Supplies & Materials—Misc." followed by an illegible initial, is written across top of page. Check mark appears above "14th" in first line.



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE  
DEVELOPMENT DEPARTMENT

3847

October 21, 1928

Mr. J. L. Pratt, Vice President  
General Motors Corporation,  
224 West 57th St.  
New York

Dear Mr. Pratt:

Since the du Pont Company is now engaged in the manufacture of ethyl alcohol we are particularly interested in its use for anti-freeze purposes. As you probably know, completely denatured alcohol was the only anti-freeze solution which was used in the radiators of automobiles up to about two years ago when glycerin and ethylene glycol were sold to some consumers for this purpose and while this competition is not as yet serious, we are interested to determine to what extent these substitutes may cut in on alcohol for anti-freeze purposes.

We are particularly interested to try to find out just what merit glycerin and ethylene glycol have for anti-freeze and whether the disadvantages of these materials will cause them to diminish rather than increase over a future period of time.

We attach a memorandum covering the Yellow Taxicab Company's (of Chicago) experience with using glycerin and ethylene glycol. It will be appreciated if we could find out through your laboratories whether these statements are true and whether this report can be verified by you.

Very truly yours,

ZP:M  
Encl.

1563

October 18, 1926

The Yellow Taxicab Company of Chicago, during the late Fall of 1925, decided to use glycerin as an anti-freeze solution and contracted for a supply.

After using glycerin, it was found that on account of leaks developing in the radiator the fan threw the solution back onto the motor and caused an unpleasant odor in the taxicabs, to which their customers objected.

They then went to ethylene glycol, and it was apparently a success, other than on account of the changing temperatures of Chicago, due to the evaporation of water, the taxicab drivers diluted the solution below the freezing point. They had considerable trouble during the severe cold snap, and several service men were sent from the Union Carbide Company to show them how to successfully use ethylene glycol. They arrived at the solution by instructing all drivers of Yellow Taxicabs to fill the radiators to within 4 to 5 inches of the over-flow pi

They had apparent success throughout the winter months, but with the arrival of spring, when the solution was drained from the radiators, it was found that the 5 inches of the radiator uncovered by the solution had corroded to such an extent that all cabs having used ethylene glycol had to be reserviced with new radiators.

The General Motors Company of Detroit, who are the parent company of the Yellow Coach Manufacturing Company of Chicago, whose president owns the Yellow Taxicab Company, were watching the success of ethylene glycol for its adoption on all cars put out by the General Motors Company. When they learned of the failure of ethylene glycol in Chicago, they abandoned it as a consideration for an anti-freeze solution for the winter of 1926.

They have, however, delegated the Armour Institute of Chicago to make a thorough investigation and find out the reason for corrosion. The Purchasing Agent of the Yellow Taxicab Company made mention of the fact that the General Motors Company had tried out glycerin and had not met with success on account of considerable engine trouble caused by glycerin making the gaskets soft and water percolating through the motor, and that they were required to replace numerous motors, especially on the Cadillac model.

Note: This information is given as it was told to the writer by Purchasing Agent of the Yellow Taxicab Company, from whom we secured contract for 500 drums denatured alcohol, and learn that they also

3849

-2-

placed a contract for 300 drums with David Berg Company.

We also inserted a clause in our contract that in appreciation of our cancelling contract which we held with them for the winter of 1925, that in the event they used alcohol for the winter of 1927 we would receive their order at the opening price of the U.S. Industrial.



3850

GENERAL MOTORS CORPORATION  
GENERAL PURCHASING COMMITTEE  
DETROIT, MICHIGAN

SUBJECT: ANTI-FREEZE SOLUTIONS.

November 13, 1926

ATTENTION OF


Mr. J. L. Pratt,  
General Motors Corporation,  
New York City.

*not sent to files.*  
Replying to your letter of October 22nd enclosing correspondence with Mr. Z. Phelps of the duPont Development Department (returned herewith), at the time of receipt of your letter it was found that the Research Section was about to complete some exhaustive experimental work on the suitability and effects of several Anti-Freeze solutions so that reply was delayed.

I enclose herewith report #234393 on "Effect of Anti-Freeze Solutions on Engine Parts". The report indicates that some of the statements made in memorandum of October 18th attached to Mr. Phelps' letters to you are in error. However, as they recommend Alcohol-Water solutions for any class of service, and in view of the indifference in participation in the Prestone contract of last year, it is evident that our divisions will largely employ Alcohol-Water Anti-Freeze Solutions.

It has been the practice of our divisions to purchase this item for themselves and I have written Mr. Phelps that if they have any price consideration to offer on a volume purchase I will ascertain from our divisions what their requirements will be.

Very truly yours,

  
James Lynch:EB.

  
Executive Secretary.



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE

DEVELOPMENT DEPARTMENT

3851

November 17, 1926

Mr. J. L. Pratt, Vice President  
General Motors Corporation  
57th & Broadway  
New York

Dear Mr. Pratt:

I am taking the liberty of writing you in regard to the use of glycerin for anti-freeze because it is important that the General Motors Corporation give this matter serious consideration.

As shown by Exhibit "A", some of your Divisions are recommending the use of glycerin in preference to alcohol. These two letters have been photostated by Procter & Gamble who produce glycerin, and are bound in a booklet containing various advertising matter which is placed in the retail dealers' hands to promote the sale of their glycerin. It does not require much sales effort to sell glycerin when the owner of a Cadillac car is shown a statement from the manufacturer, namely, the Cadillac Motor Car Company, telling him to use glycerin.

In Exhibit "B" are statements secured from various sources showing the harmful effects which are now coming to light, due to the use of glycerin for anti-freeze and we know of many consumers who have had sad experiences from trying out glycerin last year and who are now going back to the use of alcohol.

You will note that the General Motors recommendation to use glycerin conflicts with statements from the car owners who in many instances have suffered serious damage by using this material for anti-freeze. This has caused us some embarrassment because we are manufacturing alcohol and are advocating its use for anti-freeze since we believe that it is best for the car owner.

In Exhibit "C" is an office memorandum prepared by the writer giving my own ideas on this subject and I want to call your particular attention to pages four and five which I believe is the logical position for an automobile manufacturer to take when considering what is best for his own interests. For

1567

3852

example, the Nash Motors Company has done the right thing to specify in their instruction book to the car owner, that alcohol should be used to protect radiators in Nash cars against freezing.

We trust that you will see that this subject is given prompt consideration because it is none too early to start making plans for next year to instruct the car owners what is best for anti-freeze; also when the General Motors Corporation is finally convinced that glycerin is causing trouble, you may desire to take steps to have Procter and Gamble discontinue using General Motors' letters (exhibit "A") to promote the use of glycerin.

Very truly yours,

*J. O. Phelps*  
DEVELOPMENT DEPARTMENT

P.S. We have just received (see Exhibit "D") "cold weather hints" put out by the Buick Motor Company and it is particularly pleasing to find that alcohol is recommended in preference to other anti-freeze solutions. This makes it appear rather inconsistent for some branches of your company to recommend glycerin when other divisions advise the car owner to use alcohol.

JP:H  
Encls.

1568

3853

MEMORANDUM

November 16, 1926

DISADVANTAGES OF GLYCERIN  
FOR ANTI-FREEZE

Probably the most serious objection to the use of glycerin is that it deteriorates and softens the rubber hose connection and gaskets which frequently cause leaks that result in serious damage to the motor. All instructions for the use of glycerin lay special stress upon the importance of having an absolutely tight system, and while there are some automobile owners who will take precautions to tighten up the connections, it is generally found that the owner will do nothing so long as there is no evidence of a serious leak. As a result, a water system that is apparently tight will, after a time, begin leaking when glycerin is put into the radiator because of the effect which glycerin is known to have upon the hose and gaskets. Furthermore, even if precautions are taken to tighten the water system before putting glycerin into the radiator, there is always some speculation that a leak will develop and cause damage.

A leaky water system containing glycerin will ruin the motor when it gets into the cylinders. There have been numerous instances where the fan threw back the glycerin solution, which was leaking from the hose connection, upon the electric wires which caused them to short. Furthermore, the glycerin solution is decomposed when thrown upon a hot motor which causes it to give off an extremely bad odor.

Another unfavorable feature is that glycerin is more viscous than water and consequently does not flow as freely



through the cooling system. Due to the effect of glycerin, the rubber hose swells and the inside diameter of the hose is reduced which retards the circulation in the cooling system and results

—2—

in overheating the motor, particularly on warm days. The fact that manufacturers of cooling systems which operate without a pump (such as the one in the Essex) advise against the use of glycerin, indicates that it is recognized that the glycerin solution will not flow as readily through the system as water. One reason that the glycerin sold for anti-freeze is diluted with 40 to 50% water, is because 98% glycerin is so viscous that when cold it can not be readily poured into the radiator.

Either through carelessness or neglect, it is frequently found that the car owner will not drain the radiator after the winter season and as the result of leaving the glycerin in the system, we know of cases where the cooling system was clogged up and ceased to function. This resulted in serious damage to the motor.

It is found that glycerin has a tendency to loosen up the rust inside the radiator and that radiators which were tight began to leak after the glycerin was put into the system. By removing this rust scale which is a protective coating, it is claimed that the life of the radiator will be shortened.

One of the advantages claimed for glycerin is that when it is put into the cooling system, the car owner has protection against freezing throughout the entire winter. It was found by one large taxicab company who tried out glycerin and later went back to the use of alcohol, that the water in the radiators had to be frequently replenished and that when the water was added there was some dilution of the glycerin

content occasioned by overflowing the water or filling the radiators so full that they later overflowed when the mixture expanded upon becoming heated.

When glycerin is put into the radiator, the temperature of the water is raised when operating the motor, resulting in a faster rate of evaporation of the water and requiring

—3—

more frequent filling of the radiator.

The cost of glycerin for anti-freeze is much more expensive than alcohol. Procter & Gamble's glycerin, containing 40% water, is sold under their brand "Ivo" and retails for \$3.00 per gallon.

Alcohol (188 proof or 94%) is now sold to the consumer at prices ranging from 45¢ to 75¢ per gallon. The average car owner will consume between 1½ and 3 gallons of alcohol per year which is purchased at intervals when a replenishment of alcohol is required. This feature is particularly attractive to the average car owner because he obtains protection against freezing on the instalment plan and is not required to make a large cash expenditure at one time. On the other hand, the cost for a glycerin anti-freeze mixture will range between \$5 and \$11, depending upon the make of automobile. It is thought that the car owner when using glycerin will find that the cost for protection against freezing will be at least double the total cost for the alcohol required for the entire winter season. In addition the expense of tightening the cooling system should be included in the cost when using glycerin.

We quote below the instructions put out by the manufacturers of glycerin for anti-freeze purposes:

"Although the permanence of Radiator Glycerin makes it cheaper in the end, its first cost is greater.

than that of other anti-freeze agents, so it is important to prevent its waste. Above all, be sure the cooling system is tight. Remember glycerin takes advantage of minor leaks. Your garage-man can easily tighten hose connections, cylinder head gaskets, and pump packing so there can be absolutely no question that the system is leak-proof.

Also don't waste glycerin through the overflow pipe inside the radiator. Never fill radiator higher than within 3 inches of the top of this pipe (Fords 4 inches). This allows the solution to expand without overflowing when heated up.

Remember only leakage or overflow can impair the permanence of glycerin's protection. No replacement for evaporation is

—4—

necessary except an occasional replenishment of the water in the solution as in summer.

Use only pure distilled radiator glycerin solutions vouched for by a reliable maker and be sure your car is carefully serviced according to the instructions. You can then drive your car in all kinds of weather free from all worry over the possibility of a frozen motor."

It would appear that the glycerin producers themselves recognize the difficulties which the car owner may have when using their material for anti-freeze purposes and this is in a sense poor advertising because it points out where the consumer may expect trouble.

The automobile manufacturers naturally want to encourage winter driving and it is to their interest that the

owners have as little trouble as possible due to the use of an anti-freeze mixture. Furthermore, it is desirable that the owners be required to go to as little expense as possible to get protection against freezing.

The use of glycerin will frequently cause trouble and will certainly shorten the life of a radiator and for this reason the owner is always subjected to some speculation in the way of doing serious damage to his car. These troubles arising from the use of glycerin are of a character that may reflect upon the merits of the automobile and cause the owner some dissatisfaction because it will frequently be questionable whether or not parts of the motor were defective, and it will be difficult to convince the owner that his troubles were caused by the use of glycerin.

Indiscriminate use of glycerin without service attention has and will result in trouble and damages for the car owner while alcohol is practically fool proof, and has been successfully used in radiators over a long period of time.

—5—

The particular feature I want to bring out is that all automobile manufacturers in their instruction book to the car owner, will find it decidedly to their interests to advocate that alcohol be used for anti-freeze and make no mention of glycerin or any other mixtures. The instructions should imply that a car owner using any anti-freeze mixture other than alcohol will do so at his own risk. This will relieve the automobile manufacturer from any "come-back" from the owner because alcohol will not do any damage and if the owner should let his motor freeze, he has no claim nor can he become dissatisfied with his car because of his own carelessness to protect same against cold weather.



It is a simple matter by use of a hydrometer to test the percentage of alcohol in the radiator at any time and make the addition of sufficient alcohol to get protection against freezing at low temperatures. This test can be made by either the car owner or the garage and the time required will be one-quarter as long as it takes to gauge the air pressure in the four tires on the car.

JACK PHELPS (Stamp)

ZP:N

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NOTE: Handwritten "Exhibit C", underlined, appears in the upper left hand corner. "Exhibit C" in parenthesis and handwritten is at the bottom of the first page.



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE

DEVELOPMENT DEPARTMENT

3859

November 19, 1926

Mr. J. L. Pratt, Vice President  
General Motors Corporation,  
57th & Broadway  
New York

Dear Mr. Pratt:

✓ With further reference to my letter of November 17th regarding the use of glycerin instead of alcohol for anti-freeze.

The Industrial Alcohol Manufacturers Association has just completed a survey of forty-four automobile manufacturers whose recommendations are as follows:

29 manufacturers	only alcohol
5 "	only glycerin
10 "	varying mixtures of alcohol and glycerin

The Cadillac Shop Manual "314" page 50, item 375, states that a solution of glycerin and water is recommended. It is evident that the Cadillac Company is one of the few to advocate the use of glycerin and it will be of much interest to us to learn whether the Cadillac Motor Company is still of the opinion that glycerin is best after having some experience with the difficulties resulting from the use of this material for anti-freeze.

Very truly yours,

*J. O. Phelps*  
DEVELOPMENT DEPARTMENT

ZP:M

1575

FORM 345



E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

WILMINGTON, DELAWARE

DEVELOPMENT DEPARTMENT

3860

December 3, 1926

Mr. John L. Pratt, V.P.  
General Motors Corporation,  
57th & Broadway,  
New York

Dear Mr. Pratt:

Referring to our previous correspondence regarding the use of glycerin vs. alcohol for anti-freeze. We were much pleased to find that the Cadillac Motor Car Company, who advocated the use of glycerin last year, have now been compelled to alter their statement in this matter and in their new "Operator's Manual" on pages 38 and 39, recommend that only alcohol be used for anti-freeze.

We also attach a circular letter which shows that the Buick Motor Company recommends alcohol in preference to glycerin.

It therefore appears that all of the General Motors units manufacturing automobiles should profit by the experience of the Cadillac and Buick companies and should recommend, in their instruction books, that only alcohol be used. That we had in mind was that if the Cadillac and Buick found that alcohol is best for anti-freeze, it would then be consistent for the Chevrolet, Oakland and Oldsmobile to recommend in their instruction books to the owner that alcohol be used in the radiators. It will be of much interest to us to learn the position which the Chevrolet, Oakland and Oldsmobile companies take relative to the use of alcohol in preference to glycerin for anti-freeze.

Very truly yours,

*J. O. Phelps*  
DEVELOPMENT DEPARTMENT

2P:N  
Encl.

1576

3861

December 8, 1926.

Mr. J. L. Pratt

Mr. . P. Sloan, Jr.

ANTI-FREEZE SOLUTION.

I return herewith papers on the above subject. I believe I told you the policy which had been decided upon by the General Technical Committee and approved by the chief engineers of all the car divisions, which was as follows:-

That we would point out that there were two anti-freeze materials - alcohol and glycerin and components of glycerin, like ethylene glycol and prestone; that we would explain the advantages of alcohol and that the disadvantage was that if it was spilled on Duco it disfigured same. We would then deal with glycerin and materials having it as a major ingredient and would point out that it was satisfactory if used in strict accordance with the manufacturer's recommendation, but that any air allowed to get into the system would cause decomposition and corrosion of the engine operating parts and further, that the material was likely to clog up the radiator. In other words, our purpose is to state the facts as we found them in the report which was submitted to the Technical Committee.

We try to deal with the matter fairly and state the facts, feeling that our customers are entitled to know same and hoping that they would use alcohol, which we would much prefer they would use. In view of the fact, however, that some people prefer glycerin - Mr. Kettering would use nothing else - it did not seem to us that the conditions warranted discrediting same. We must bear in mind that glycerin interests are large and varied. They are all potential users of General Motors product and we do not want to discredit them beyond the necessities of the case, provided we can, in so doing, protect our customers interests.

I believe I told you further that the Glycerin Manufacturers' Association was in touch with our findings and had no fault to find with the facts as we had established them.



38611

2

I will take this matter up further at the next meeting of the General Technical Committee and also the principle that greater care be exercised in establishing the principle so that conflicting information does not go out.

AP3Jr./K

att.

3862

December 20, 1926.

Mr. J. L. Pratt

I was looking over my file and noted the correspondence you have had with the duPont Company on the matter of alcohol and glycerine for anti-freeze.

I believe you know that at the last meeting of the General Technical Committee a decision was reached to the effect that we would put in all our instruction books, in such a way as each Engineering Department thought best, a statement setting forth the advantages and disadvantages of both materials, particularly pointing out that under certain conditions glycerine was unsatisfactory but that if those conditions were not present and it was used strictly in accordance with the manufacturer's recommendation, there was no objection to its use.

3863

January 11, 1926.

Mr. James Elms,  
Paint & Varnish Division,  
E.I. duPont de Nemours & Co.,  
35th & Grays Ferry Road,  
Philadelphia, Pa.

Dear Jim:

I have your letter of January 9th in regard to rubber and finishing varnish purchased by Delco-Light from Lowe Brothers.

I am under the impression that Delco-Light Company have plans whereby they are going over to the use of Duco practically 100%. However, I will discuss this situation with Mr. Biechler, General Manager of Delco-Light Company, and if I can be helpful in straightening out your situation I will be glad to do so.

I shall not be disappointed if the Paint and Varnish Division becomes like the stone rejected by the builder, which according to Scripture became the head of the corner.

You had better plan to run up to New York this week to the Automobile Show, as Brook Jackson, E.F. Johnson, Jim Lynah and a lot of the boys you know will be here.

Very truly yours,

JLP:V

NOTE: A handwritten check appears over the word 9th in the first sentence of the first paragraph. An illegible word is crossed out in the upper right hand corner. The word "omit" is written in the right hand corner.

3864

CALL ADDRESS "DELCO-LIGHT" TELEGRAPHIC CODES WESTERN UNION, N. &amp; C. 5TH EDITION, LIEBEN'S STANDARD



Subsidiary  
General Motors Corporation

## DELCO-LIGHT COMPANY

ELECTRIC LIGHT AND POWER PLANTS WATER SYSTEMS  
FRIGIDAIRE AND OTHER ELECTRIC DEVICES

DAYTON, OHIO, U. S. A.

January 21, 1926.

OFFICE OF  
PRESIDENT AND GENERAL MANAGER

Mr. J. L. Pratt, Vice President,  
General Motors Corporation,  
New York City.

Dear Mr. Pratt:-

You read a letter to me from a duPont official regarding an inquiry and order he had received from us for black enamel. Since my return, I have gone into the situation thoroughly and the picture is something like this.

The enamel we have used on our lighting plants and on the sides of our ice cream cabinets has practically all been purchased through Lowe Brothers Company here in Dayton, or through some other local paint company. When we started operation at Moraine and began using the automatic dipping method, we naturally ran into a different condition from a paint application standpoint than in our previous hand dipping or spray method. The Dayton concern, that is, Lowe Brothers, were not coping with the situation as rapidly as we wanted them to, and some members of our organization went to the Chevrolet factory in Cincinnati to look into their automatic paint dipping methods.

Due to that visit, a request was sent to Chevrolet Company, Detroit, to send one of their enamel experts to us, and he recommended our using duPont enamel. We then sent an inquiry to duPont, they acted on it very promptly, we gave them an order, but in the meantime, Lowe Brothers came through with what looked like a satisfactory enamel. It was at this point that the duPont order was held up.

I find, however, that our manufacturing, chemical and purchasing divisions feel that we would be in better hands possibly by dealing with duPont than with Lowe Brothers. We will know sure about this within a few days, at which time we will communicate with duPont, and will also advise you.

Hoping the above satisfactorily explains the situation up to date, I am

Yours very truly,

DELCO-LIGHT COMPANY

*E. G. Wheeler*  
President and  
General Manager

AOB/CL

**There's a satisfied user near you.**

1581

NOTE: "1/23/26" in upper right margin is inserted after "J.L.P." in a routing stamp bearing initials "A.P.S.", "J.L.P." and "L.R.B."



3865

January 23, 1926.

Mr. E. G. Biechler, General Mgr.,  
Delco-Light Company,  
Dayton, Ohio.

Dear Mr. Biechler:

Please accept my thanks for your letter of January 21st in regard to the question of paint supplied to you by local paint companies and the situation as applying to the duPont Company.

I am glad to know that your manufacturing, chemical and purchasing divisions feel they would be in better hands, possibly by dealing with duPont than with local companies. From a business standpoint no doubt your organization would be influenced to give the business, under equal conditions, to the local concerns. However, I think when General Motors divisions recognize the sacrifice that the duPont Company made in 1920 and 1921, to keep General Motors Corporation from being put in a very bad light publicly—the duPont Company going to the extent of borrowing \$35,000,000 on its notes when the company was entirely free of debt, in order to prevent a large amount of General Motors stock being thrown on the open market—they should give weight to this which in my mind more than over-balances consideration of local conditions. In other words, I feel that where conditions are equal from the standpoint of quality, service and price, the duPont Company should have the major share of General Motors divisions' business on those items that the duPont Company

3866

can take on the basis of quality, service and price. If it is possible to use the product from more than one company I do not think it advisable to give any one company all of the business, as I think it is desirable to always keep a competitive situation, otherwise any supplier is liable to grow slack in seeing that you have the best service and price possible.

I have expressed my own personal sentiments in this letter to you in order that you might have my point of view, but I do not wish to influence your organization in any way that would be against your own good judgment, keeping in mind that above all the prime consideration is to do the best thing for Delco-Light Company, and that considerations in regard to the duPont Company or other concerns are secondary, and I am sure this is your feeling.

Very truly yours,

Vice President.

JLP:V

copy to Mr. Elms

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NOTE: A check mark appears above "21st" in the first line of the body of the letter.

2

1583

3867

PERSONAL

Mr. James Elms  
Paint & Varnish Division,  
E.I. duPont de Nemours & Co.,  
35th & Grays Ferry Road,  
Philadelphia, Pa.

Dear Jim:

In regard to your letter of January 9th, I am enclosing herewith copy of letter I have today written Mr. Biechler.

This is solely for your own personal information.

I was very glad to learn that you will be able to go to Pinehurst with us. I have made reservation for you for two weeks, beginning March 7th. Put this date on your calendar, as I won't accept any alibis that you have to go to Chicago, Boston, or somewhere else.

Very truly yours,

JLP:V  
enc.

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NOTE: "Accessory—Delco Light—Products—Supplies & Materials—Paints" is written at top of page and illegible initials or other mark are written in upper right-hand corner. A check mark appears above "9th" in first line of the body of letter.

1584

3868

**MEMORANDUM**

To Mr. Curtice  
C - Messrs. Champion, de Gulchard,  
Vessey, Proctor.

April 15th '26

The writer has been making some experiments with the idea in mind of securing a cheaper clear lacquer for our odometer wheels and speed cups. At the present time we are using DuPont material and pay \$5.05 per gal. for the lacquer and \$1.98 per gal. for the Thinner in fifty gallon drum lots. The Zapon Company will furnish us the material known as "Aquanite D" at \$2.10 per gal. and Thinner to go with it at \$1.60, total savings \$1.23 per gallon.

I have sprayed a sufficient quantity of parts and believe this material will be entirely satisfactory for our use. I am turning over to Mr. Smith some of the parts so that same can be given a weather test and if same proves O.K., I would suggest that we change the material.

we are receiving very poor service from the DuPont Company and it is my opinion that it would be greatly to our advantage to change our source of supply. It usually takes DuPont from two to three months to submit us a sample of material and we can secure from one to two weeks service from Zapon or Egyptian Lacquer Company.

R. G. Knight.



3869

A C SPARK PLUG COMPANY

FLINT, MICHIGAN

OFFICE OF  
THE PRESIDENT

April 16th, 1926

Mr. J. L. Pratt,  
General Motors Corporation,  
224 W. 57th St.,  
New York City, N.Y.

My dear Mr. Pratt:—

I am attaching herewith memorandum I have received from one of our Experimental Engineers, which is self-explanatory.

The reason I am bringing this to your attention is because naturally we want to do business with the Du Pont Company and I thought perhaps you would know whom to approach who would see that we receive proper attention, not only in supplying material on the basis that other firms are able to do, as there is no doubt but what DuPont should be in a position to do the same as other firms, but also that we are given the proper service.

Thanking you in advance for your favor, I am,

Very truly yours,

A. Champion  
President

AC:GR

NOTE: Routing Stamp bearing initials A.P.S., J.L.P. and L.R.B., with "4/21" inserted by hand after "J.L.P.", appears in upper right corner. Illegible initial is written in upper right corner.

1586

3870

April 19, 1926.

PERSONAL

Mr. J. J. Moosman,  
DuPont Chemical Co.,  
Parlin, New Jersey.

Dear Joe:

I am enclosing herewith a letter I received from Mr. Albert Champion which I thought would be interesting to you.

Won't you please indicate to me the kind of a reply we should make, and return this letter to me in order that I may reply to same.

Very truly yours,

Vice President.

JLP:V

1587

ADDRESS ALL CORRESPONDENCE TO THE COMPANY SALES DEPARTMENT AT PARLIN, N. J.



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

CHEMICAL PRODUCTS DIVISION  
PARLIN, NEW JERSEY

3871

April 20, 1926.

Mr. John L. Pratt,  
Vice President,  
General Motors Corp.,  
224 West 57th Street,  
New York, N. Y.

Dear Mr. Pratt:

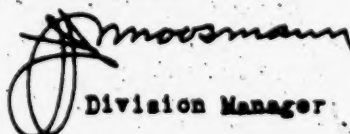
We very much appreciate the opportunity that you and Mr. Champion have given us to see Mr. Knight's complaint regarding our unsatisfactory service in connection with the adaptation of our products to their requirements.

While I would not presume to exactly diagnose the cause of the trouble from this distance, it is my opinion, after looking over our records on this account, that it is due to lack of technical knowledge and experience on pyroxylin products on the part of the man upon whom we are depending for our contact with the A. C. Plant. He has been with us for many years, but until recently his experience has been confined to products of the paint and varnish type; and the records seem to indicate that he has been unable to do much more than act as messenger in connection with technical pyroxylin problems.

You may assure Mr. Champion that this condition will be corrected immediately, and that we are fully aware of the fact that we cannot expect to continue to enjoy this business unless we are able to provide quality, service and price at least equal to that of any of our competitors.

With renewed thanks for your kind cooperation, I remain

Very truly yours,

  
Division Manager

JJM:ML

1588

3872

April 21, 1906.

Mr. Albert Champion, President,  
A. C. Spark Plug Company,  
Flint, Michigan.

Dear Mr. Champion:

Referring to your letter of April 16th in regard to service of the DuPont Company on lacquer finishes, I have had this subject up with Mr. J. J. Moorman, Division Manager of the Chemical Products Division of the DuPont Company, who is handling this part of the business, and he asks me to assure you that conditions experienced in your plant will be corrected immediately, and that he does not expect to continue to enjoy your business unless he is able to provide quality, service and price at least equal to that of any of his competitors.

I have sufficient confidence in Mr. Moorman to know that he will do anything he undertakes to do, so I look forward to your having the unsatisfactory situation, complained of by your Mr. Knight, corrected.

Thanking you for bringing this matter to my attention,

Very truly yours,

Vice President.

JLP:V

copy to Mr. J.J. Moorman



Government's Exhibit No. 347

3873

**A C SPARK PLUG COMPANY**

**FLINT, MICHIGAN**

OFFICE OF  
THE PRESIDENT

April 23rd, 1926.

Mr. J. L. Pratt,  
General Motors Corporation,  
224 W. 57th St.,  
New York City, N.Y.

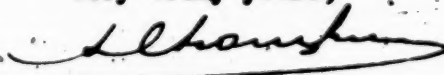
My dear Mr. Pratt:

I am in receipt of your letter of the 21st and certainly appreciate your taking up with the DuPont Company, the trouble we have been experiencing, and am glad to know that they will see that we get satisfaction.

Thanking you for the favor,

I am,

Very truly yours,



President.

AC:GP

1590

3874

Mr. deGuichard,  
C-Messrs. A. Champion, / Curtice,  
File.

July 12th, 1926.

According to your request, the following is an outline covering the Dupont situation:

At the present time all our production oil base enamels and paints with the exception of tin coating white used on odometer wheels and speed cups are furnished by Dupont. Also you will note by the following list that the bulk of our nitro-cellulose enamels are Dupont:

#4101	— Clear Lacquer	Dupont
3500	— Thinner	"
1309	— Clear Lacquer	"
2302	— Black Enamel	"
20132	— Black Enamel	"
201247	— Grey Enamel	"
540	— White Enamel	Zapon
CN-1225	— Ivory	"

On April 11th Mr. Champion wrote Mr. J. L. Pratt with reference to the service we were receiving at that time. Mr. Pratt took the matter up with Mr. J. J. Mooseman, Divisional Manager, Chemical Products Division, and since that time the action we have been securing has been very much better, though from our standpoint it could be greatly improved.

There seems to be too much lost motion, for instance the matter is taken up through the Flint office and then sent to

3875

the Detroit Office and then to Parlin. For example I would site our latest experience:—

On June 18th I wrote the Detroit office direct to the attention of Mr. Hamaker, regards submitting samples of cream enamel to match the sample dial sent us by Peerless. I received no acknowledgment to my letter and followed it up with another on June 25th. I received a reply dated June 28th from their Mr. Strong advising that they were in constant touch with the Parlin Plant and a suitable material was being developed. I called Mr. Strong on July 3rd and was advised that he would secure more information from Parlin. Mr. Strong on July 8th phoned me that Parlin had promised to make shipment on July 10th.

According to the above it will take us at least 25 days to secure sample materials from Parlin. This is altogether too long because when a manufacturer requests a sample face of special material it is impractical for us to mix up some of the available material in our plant and submit a sample because it would be very difficult to duplicate same. We have to depend upon the paint manufacturer to work out a formula that can be standard.

It seems to me that if we could deal direct with Parlin when requesting samples that a lot of our trouble would be eliminated.

R. B. Knight.

NOTE: Illegible initial is written in upper right corner of page.

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E

3876

A C SPARK PLUG COMPANY

FLINT, MICHIGAN

OFFICE OF  
THE PRESIDENT

July 14, 1926

Mr. J. L. Pratt,  
General Motors Corporation,  
New York City

My dear Mr. Pratt:

Referring to correspondence I had with you some time ago regarding material we purchased from duPont I am sending you copy of memorandum which shows the difficulty we still have and if we do, I suppose all other manufacturers must have the same trouble.

I believe it is perfectly all right if we have some standards established on material we use to go possibly to all the steps with the different offices the duPont Company have. When we are doing some development work it would be very much better if we could establish direct contact between Pyralin and ourselves. It is expensive to duPont and to us and neither of us can get results.

Parlin

Would appreciate it if you could take that up with the person in authority and see what you can do for us regarding this matter.

1593



3877

Thanking you in advance for your favor, I remain

Very truly yours,

*A. Champion*  
President

AC/A

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NOTE: Routing stamp bearing initials A.P.S., J.L.P. and L.R.B., appears in upper right corner. "Pyralin", in sixth line in second paragraph, is encircled by a pencil line. Illegible initial is written in upper right corner.

Italics indicate handwriting.

2

Government's Exhibit No. 350

3878

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

Wilmington, Delaware

DEVELOPMENT DEPARTMENT

May 1, 1926

Mr. John L. Pratt, Vice President  
General Motors Corporation  
57th & Broadway  
New York City

Dear Mr. Pratt:

We are again looking into the possibility of manufacturing oilcloth and it will be of much interest to us to learn the approximate quantity of oilcloth and black enamels which is now used annually by the General Motors Corporation. If you can conveniently get this information for us, it will be very helpful and greatly appreciated.

Very truly yours,

*Z Phelps*

DEVELOPMENT DEPARTMENT

ZP:N

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NOTE: Routing stamp bearing initials A.P.S., J.L.P. and L.R.B., with "5/17" inserted by hand after "J.L.P.", appears in lower right. Illegible initials or other writing appears in upper right corner. Italics indicate handwriting.

1595

May 4, 1926.

Mr. James Lynah:

I am enclosing herewith copy of letter from Mr. Z. Phelps, of the Development Department of the DuPont Company, from which you will note that he is interested in the quantity of oilcloth and black enamel used annually by General Motors Corporation.

If you can obtain this information readily won't you please forward same.

.....  
Vice President.

JLP:V  
enc.

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NOTE: Illegible initials or other writing appears in upper right corner.

3880

GENERAL MOTORS CORPORATION  
GENERAL PURCHASING COMMITTEE  
DETROIT, MICHIGAN

May 15, 1926.

Subject BLACK ENAMELS.

Attention of Mr. J. L. Pratt,  
General Motors Corporation,  
New York City.

In reply to your letter of May 4th enclosing letter from  
Mr. Z. Phelps of the duPont Company relative to consump-  
tion of Oil Cloth and Black Enamels:

1—Our divisions use no oil cloth.

2—Consumption of Black Enamel for year, 1925 as  
reported; totals 597,145 gallons.

Buick's quantity—201,974 gallons

Chevrolet's " —260,629 "

Reported as purchased from duPont Company.

Yours very truly,

*James Lynah*  
Executive Secretary.

James Lynah:EB.

NOTE: Rotting stamp bearing initials A.P.S., J.L.P.  
and L.R.B.; with illegible notation inserted by hand after  
"J.L.P."; appears in right margin; check mark appears  
above "4th" in first line. Illegible initials or other writing  
appears in upper right corner. Italics indicate handwriting.

1597



3881✓

May 17, 1926.

Mr. Z. Phelps,  
Development Department,  
E. I. duPont deNemours & Co.,  
Wilmington, Delaware.

Dear Mr. Phelps:

Referring to your letter of May 1st. A canvass of our Divisions shows that we are using no oilcloth.

Our consumption of black enamel in the year 1925 was 597,145 gallons, of which 462,600 gallons were reported as purchased from the duPont Company.

The above figures do not include Fisher Body—of these purchases we do not keep any statistics.

Very truly yours,

Vice President.

JLP:V

NOTE: "G.M.C. — Products — Supplies & Materials — Misc."; followed by illegible initials, is written across top of page; check mark appears over "1st" in first line.

3882

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Wilmington, Delaware

DEVELOPMENT DEPARTMENT

July 7, 1926

Mr. J. D. Brown, Vice President  
General Motors Corporation,  
57th & Broadway,  
New York City

Dear Sir:

At the suggestion of Dr. F. Sparre we are writing to learn if you can conveniently ascertain the approximate quantity of oilcloth consumed per year by the Fisher Body Corp. We imagine that the Fisher Body Corporation's oilcloth requirements are comprised largely of black enamels and it is not necessary to make any separation of the different classes of oilcloth material consumed since one lump figure will serve our purpose.

Confidentially the du Pont Company is considering the production of oilcloth and this information will be of much interest to us.

Very truly yours,

*Z. Phelps*

DEVELOPMENT DEPARTMENT

ZP:N

NOTE: Illegible initial is written in upper right corner.  
Italics indicate handwriting.

3883

July 8, 1926.

Mr. Charles T. Fisher,  
Fisher Body Corporation,  
Detroit, Mich.

Dear Mr. Fisher:

The Du Pont Company is contemplating the possible production of oilcloth and are checking up on the market for such product. In connection with their check-up of the market condition they are inquiring as to the extent of General Motors purchase of oilcloth.

Would you mind having some one let me know what Fisher Body Company's requirements for oilcloth are, and a general indication of the grade, or grades, that are used? Incidentally, it would be interesting to have your personal observations as to the general commercial situation existing in the oilcloth business, from your own viewpoint.

Would appreciate your attention to this matter, and of course the fact that the Du Pont Company is contemplating entering into the oilcloth business should be treated confidentially.

DONALDSON BROWN,  
Vice President

DB:W

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NOTE: "Fisher Body—Products—Supplies & Materials—Oilcloth" followed by illegible initial, is written across top of page. Check mark appears in lower right corner; "7/15", through which a line has been drawn, is written immediately above check mark.

3884

FISHER BODY CORPORATION  
DETROIT, MICH.

Mr. Donaldson Brown,  
General Motors Corp.,  
New York, N. Y.

July 30, 1926.

Dear Mr. Brown:

Your letter of July 8 regarding the oil cloth business was received and in checking over our requirements I find that we are using approximately twenty thousand yards of enameled drill per month and fifty thousand yards of enameled duck per month.

Present price on the drill is 33¢ per yard, 50" width, which is the standard; on the duck, 75¢ per yard, this being 54" width which is the standard.

Enameled drill and duck are made on the same principle as oil cloth but are heavier in weight, the oil cloth being made on a fine sheeting in various colors while the enameled drill is made on drill material and the enameled duck on duck material, this making the difference in weight. They are all made in the same plant where they produce oil cloth.

We buy most of our material from the Landers Bros. Co., Toledo, and the Columbus Union Cloth Co., Columbus.

Prices quoted by the different concerns are usually just about the same.

Yours very truly,

*Chas T Fisher*

CTF/F

NOTE: Check mark appears above "July 8" in first line. Illegible initial is written in upper right corner. Italics indicate handwriting.



3885

August 2, 1926

Mr. Z. Phelps,  
Development Department,  
E. I. du Pont de Nemours & Co.,  
Wilmington, Delaware.

Dear Sir:—

Referring to your letter of the 7th ulto., beg to advise that the Fisher Body Corporation use approximately twenty thousand yards of enameled drill per month and fifty thousand yards of enameled duck per month. As you probably know, enameled drill and duck are made on the same principle as oil cloth, but are heavier in weight.

Yours very truly,

DONALDSON BROWN,  
Vice President

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NOTE: "Fisher Body—Products—Supplies & Materials—Oilcloth" followed by an illegible initial, is written across top of page; check mark appears above "7th" in first line.

1602



3886

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
DYESTUFFS DEPARTMENT  
WILMINGTON, DELAWARE

Mr. John L. Pratt, Vice-President,  
General Motors Corporation,  
New York City.

Dear Jack:-

Mr. Robinson tells me that you called last Friday to find out surely who it was that I suggested to you as a source of supply for Methyl Chloride. I believe he told you that Dow seemed to be the best possibility, and as I recollect it that is the name I previously gave you. At the present time, the only manufacturer in this country is the Rosenthal & Hasselacher Chemical Company. However, we feel Dow undoubtedly could make it.

I find that Dr. Chambers has been talking to your Mr. Williams regarding possibility of your use of Methyl Chloride. If you have decided definitely to go into the use of this product, we would like very much to be given the opportunity to be considered as one of your suppliers. In the manufacture of tetraethyl lead we use Ethyl Chloride. So far, on account of the difficulty in getting started with tetraethyl lead we have had Dow manufacture Ethyl Chloride for us. It is quite probable that in the near future, owing to the saving, we will want to manufacture our own Ethyl Chloride and in such event the manufacture of Methyl Chloride would be a logical associate manufacturing problem.

I do not wish to leave this in the position of assuming that if we manufacture Ethyl Chloride we will also manufacture Methyl Chloride, but that if you are going to use the latter item we want to be in position to bid on some of your requirements.

While in New York the latter part of last week I stopped in to see you but found you were out in Detroit, and was sorry to have missed you. With best regards,

Sincerely yours,

*W. P. Harrington*  
W. P. HARRINGTON,  
GENERAL MANAGER.

H-H

1603

3887

August 10th, 1926.

Mr. W.P. Harrington,  
General Manager,  
Dyestuffs Department,  
E.I. Du Pont De Nemours & Co.,  
Wilmington, Delaware.

My dear Buck:

Referring to your letter of August 4th, it is true we have about decided to use Methyl Chloride in a new electrical refrigerator that we expect to shortly put on the market.

Mr. Robertson told me that you were considering the manufacture of Methyl Chloride along with Ethyl Chloride, so I have asked our Delec-Light Division to make no contracts for Methyl Chloride for a period greater than one year so that we would be in a position to deal with you, if you should later decide to enter into the manufacture of this product.

Thanking you for your interest in same, I remain,  
with very best regards,

Yours very truly,

*J. L. Vrain*  
Vice President

JLP:J

1604



3888

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

DYESTUFFS DEPARTMENT  
WILMINGTON, DELAWARE

September 23, 1925.

Mr. John L. Pratt, V.P.,  
General Motors Corporation,  
224 W. 57th Street,  
New York City, N. Y.

My dear Jack:-

It is our understanding that in the manufacture of your refrigerating machines in the Delco System you are using Liquid SO<sub>2</sub> as a refrigerating agent. We are interested to know if it would not be possible for you to purchase this from us as we have an available supply, and, if so, to whom we should write to get the information regarding containers, etc. for its sale.

With kindest personal regards, I

am,

Sincerely yours,

*W. F. Harrington*  
W. F. HARRINGTON,  
GENERAL MANAGER.

1605



3889

September 29, 1925.

Mr. W. F. Harrington, General Mgr.,  
Dyestuffs Department,  
E.I. duPont de Nemours & Company,  
Wilmington, Delaware.

Dear Buck:

You are correct in your understanding as expressed in your letter of September 23rd, that we use liquid  $\text{SO}_2$  in our Frigidaire machines, and if you are in position to supply  $\text{SO}_2$  of the quality we require and at the right price I know of no reason why you should not be able to obtain the business. You might address the Purchasing Agent, Mr. F. L. Riehle, Delco-Light Company, Dayton, Ohio, in regard to specifications.

However, I would like to impress on you that it is necessary for us to have an exceptionally pure and dry  $\text{SO}_2$  gas and I would not like you to consider supplying us unless you can promise absolutely uniform product. We have had some unfortunate experiences in the past in attempting to use DuPont acid in connection with our pickling operations at Lancaster, and I would not like to take chances on repeating this by trying to use  $\text{SO}_2$  gas. Therefore, please don't put forward the use of your  $\text{SO}_2$  gas unless you are absolutely sure it will meet our specifications.

Very truly yours,

Vice President.

JLP:V

copy to E.G. Biechler

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Note. At top of letter is written: Accessory -  
Delco Light - Products - Supplies & Materials - Misc.

1606

3890

October 9, 1925.

Mr. W. F. Harrington, General Mgr.,  
Dyestuffs Department,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

Dear Mr. Harrington:-

Mr. J. L. Pratt sent me copy of his letter to you  
of September 29 regarding SO<sub>2</sub>.

We will be very glad to have you get in touch with  
us regarding this subject. You will find the people in our  
Purchasing Department in a receptive mood and we will cooperate  
with you in every consistent way, provided price, quality,  
deliveries, etc., meet our requirements.

Yours very truly,

DELCO-LIGHT COMPANY

General Manager

EGH/CL

CC Mr. Pratt.

1607

3891

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Wilmington, Delaware  
EXECUTIVE OFFICES.

October 28, 1926.

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
224 West 57th Street,  
New York City, N. Y.

Dear Mr. Sloan:

Our Paint Department recently has been considerably upset because of the difficulty in getting accurate information as to the probable requirements of the various General Motors units for Duco. A month ago they were being pressed for deliveries and led to believe that there was no prospect of a material reduction in demand. To-day they are receiving cancellations and postponements "right and left," and cannot make out what it all means. Personally, I am mystified, because the forecast schedules submitted to the Finance Committee do not seem to agree at all with the dope that our Paint Department gets from its representatives in Flint and Detroit.

I have always considered the General Motors Finance Committee reports as strictly confidential. Do you see any

3892

objection to my giving our Paint Department such forecast figures as are included in these reports?

Yours very truly,

*L. du Pont*  
PRESIDENT.

LduP/MD

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NOTE: Routing stamp bearing initials A.P.S., J.L.P. and L.R.B., with "10/29" inserted by hand after J.L.P., appears in upper right corner; "RECEIVED OCT 29 1926 A. P. SLOAN, Jr." is stamped at top of page. Illegible initial is written in upper right corner. Italics indicate handwriting.



3893

October 29, 1926.

Mr. Lamont duPont, President,  
E. I. duPont de Nemours & Co.,  
Wilmington, Delaware.

Dear Mr. duPont:

Referring to your inquiry of October 28th as to giving your Paint Department the General Motors forecast figures included in the Finance Committee reports.

We prefer you to continue to consider the production figures given in the finance forecast as confidential and not make them available to your various operating departments.

It is our practice to require our accessory divisions to develop from the car divisions the requirements of the car divisions upon the accessory divisions and we do not allow our various accessory divisions to make programs on the forecasts which the car divisions submit for the purpose of the financial statements. We have found that this policy is necessary because the banks of material, or, in other words, stock of materials at our various car divisions plants ahead of production must vary with the volume of production. When our schedules are increasing, the bank of material is increased; when schedules are decreasing, the bank of material is decreased. These necessary adjustments in banks of material have considerable influence on the amount of material ordered and may vary materially from the production schedules. We have also found by experience that if we supply our accessory divisions with the car divisions forecasts, the accessory divisions are inclined to try to tell the car divisions how much material they should take which thereby leads to friction between the selling and purchasing divisions.

I cannot understand why your Paint Department is so upset in the schedules coming from General Motors. Our General Motors accessory divisions have dealings with all of the automobile companies and the changes in schedules in recent weeks in our outside business have been a great deal more marked than they have in General Motors divisions and I do not see why the same thing that is affecting our accessory divisions would not be reflected in your Paint Department.

1609

Mr. Lammot duPont -- 2.

I know you realize that the statistics placed before the Finance Committee are forecasts and that a forecast can be nothing but an estimate made on the best information obtainable at that time. I have before me a comparison of our September 25th forecast and October 25th forecast made by our car divisions. Our October 25th forecast for October production is 8.7% less than our September 25th production forecast. Our October 25th forecast for November production is 16.6% less than the September 25th forecast for November. Our December forecast as of October 25th is 17.4% less than our September 25th forecast for December. For the period October, November and December, our October 25th forecast is 13.9% less than we forecast September 25th. The forecast of September 25th was made at a time when we had had twelve months continuous increasing business, practically every forecast of the preceding month being exceeded by the following month. This probably had a tendency in September to make our divisions somewhat over-optimistic as to October, November and December business. There has also been a moderate slowing up of business in October. Taking these two facts into consideration, I do not think that the 13.9% indicated less business than anticipated in September is anything to get excited about, or upset anyone.

In October and November normally there would be a decrease in the bank of materials carried at our car divisions due to the fact that November, December and January are usually months of low production, together with the indicated slowing up of under 14% from the viewpoint of September is all the change that we definitely know of. There may be one other factor - I know there has been considerable dissatisfaction on price of Duce thinner as purchased from the duPont Company by some of our divisions and steps are being taken to mix our own thinners, this may have become effective to the point of reducing somewhat the volume of duPont business.

Yours very truly,

*J. L. duPont*  
Vice President.

JLP:L

Government's Exhibit No. 365

3895

## GENERAL MOTORS CORPORATION

224 WEST 57TH STREET

NEW YORK

November 8, 1926.

Mr. Lammot duPont, President,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

NOV 8 1926  
LAMMOT DUPONT

My dear Lammot:-

On my return from an absence abroad of several weeks and going over my accumulated mail, I find your letter of October 28th, answered by Mr. Pratt under date of October 29th, dealing with the matter of our schedules. Mr. Pratt's letter I think should cover the matter satisfactorily.

You will note, if you will study our forecasts, that there has been quite a curtailment in our production schedules, necessitated by keeping them in harmony with a somewhat reduced consumer demand. This is due to two circumstances; first, the probable change in trend to a more or less degree; second, to the fact that our better performance in getting new cars into the territory in August and September has tended to move the retail deliveries forward as compared with last year.

It is our policy, as Mr. Pratt has pointed out to you, to require all our suppliers to adjust their schedules in line with our schedules in order that our inventory may not rise excessively or, in other words, should be kept in alignment with any change in production schedule. This sort of thing is recognized in the industry. As a matter of fact, the manufacturer has always been, in principle, looked upon as the agent of the supplier rather than in the relationship of buyer and seller in the ordinary commercial sense. In other words, the supplier always takes the obligation to supply what material is needed for the manufacturer's requirements and accepts increases or decreases in schedules as the demand on the part of the manufacturer's products may necessitate.

As I have often said, when the matter has come up for discussion at the Finance Committee meetings, in the case of any curtailment of business our control of inventory is such that it can be adjusted as circumstances may require. Naturally, that can only be done by throwing part of the burden at least on the suppliers of the material. We take the position that it is their duty to co-operate with us and, naturally, the duPont Company is no exception to the rule.

GOVT. TRIAL EX. No. 365

Government Exhibit No. 431

Page 42,  
Mr. Lemmet duPont,  
November 8, 1926.

3896

I hope that this letter, together with Mr. Pratt's, will make it perfectly satisfactory to you, but if not, I will be glad to discuss the matter more in detail some time when you are over here.

Very truly yours,

Alfred P. Sloan, Jr.

APGJr./K



John Pratt, V.P.  
General Motors Corp.

**E. I. DU PONT DE NEMOURS & COMPANY**

WILMINGTON, DELAWARE

November 9, 1926.

EXECUTIVE OFFICES

Mr. Alfred Sloan, President,  
The General Motors Corporation,  
New York City, N. Y.

Dear Alfred:

Yours of November 8th, in reply to mine of October 28th, to which Mr. Pratt had already replied on October 29th, received.

I am afraid I did not make myself clear to either of you.

It never entered my head that our Paint Department would attempt to dictate to the General Motors Corporation or any of its car divisions how much Duco they should order or how far ahead they should keep themselves supplied; nor would I have permitted our Paint Department to make a program based on forecasts of the G.M. car divisions; whether such forecasts were received from the Purchasing Agents or by the Finance Committee route. You, of course realize that any sudden change in demand for a product is much more disconcerting than if that change were forecast several months or even weeks ahead, even though the forecast may be a very hazy one. What is anticipated as a possibility is never as much of a shock as that which has been thought of as an impossibility.

In the present case the decline in car production

3898

Mr. Alfred Sloan

- 2 -

11/9/26

was expected as far back as August - at least the August forecast prepared for the Finance Committee indicated that the production for November would decline to 87,000 cars, where it was forecasted 147,000 for September. The September forecast and the October forecast confirm this tendency. None of these forecasts were conveyed in any shape or form to our Paint Department; and when about November 1st I told Mr. Allen, head of the Paint Department, that a decline in automobile production in the last quarter of the year should be anticipated, he came back with the statement that it did not occur in 1925, thus proving to me better than he could have by any long dissertation that he, at least, had never had this probability drawn to his attention this year.

I cannot get through my head why it is harmful for two organizations, that are trying to work together to each know the other's best guess as to what the other is to be called upon to do. In the absence of the G.M. guess as to car production, our Paint Department is bound to make their own guess. They cannot avoid it; business prudence requires it; they must make that guess, whether they put it down in writing or not and be governed by that guess. How can it be other than advantageous to have this guess as correct as possible?

Of course, I would much rather the car divisions would give their forecast figures to our Duco representative

Mr. Alfred Sloan

- 3 -

11/9/26

direct, because he would thus get them very much earlier than if they came by way of the Finance Committee, but there may be some good reason why that cannot be done. I can think of no reason why forecast figures given to our Paint Department could be harmful.

Perhaps you do not realize what information we are getting to-day. I recently asked Mr. Allen to give me a statement of the information as to G.M. production which he had available on November 1st. He gives this to me in the form of a tabulation with comments. The tabulation shows the output for the different cars for September, for October and the current rate on October 30th. In the comments, this paragraph appears: "In the case of Chevrolet their production will continue to drop off until early in December, when they will begin building the new line, and it will be the first of January before there will actually be an operation at about 1300 jobs per day." This is the only information in the nature of a forecast, and you will note it applies only to Chevrolet.

There is an old saying that "a little knowledge is worse than none." This, however, is only true when the possessor of that "little knowledge" thinks he knows it all.

Yours very truly,

*Wm. B. Ewing*  
PRESIDENT.

LduP/MD

NOTE: Date in stamp on first page is "NOV 10 1926".

1615

3900

I. du Pont, President

This is the kind of information  
we receive. This report came  
in this morning.

NOV 8 - 1928

LAMMOX DU PONT

W. T. Allen

~~W. T. Allen~~



3901

EXTRACT FROM "WEEKLY REPORT" TO H. E. LACKEY, 10-30-26.

As a matter of interest, we are outlining the approximate schedules of the most important automobile units with whom we do business. In the case of General Motors, we will show September schedule, October and the current schedule:

	<u>September</u>	<u>October</u>	<u>Current</u>
Buick	1150	800	800
Cadillac	140	105	75
Pontiac	250	200	180
Chrysler	100	156	156 (Bodies by Fisher)
Oakland	350	200	180
Oldsmobile	275	225	Plant closed.

In the case of Oldsmobile, an explanation is necessary "Plant closed" means that the Fisher Plant are not building any jobs as they have sufficient bodies in storage to keep their small production for approximately five weeks. It looks very much to us like the Oldsmobile Plant will probably not do any operating of any account before the first of the year.

Chevrolet	3500	2800	1800
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In the case of Chevrolet, their production will continue to drop off until early in December when they will begin building the new line, and it will be the first of January before there will actually be an operation at about 1300 jobs a day.

NOTE: "gmc-594f" is written in lower right corner of this document.

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Up to this writing, Seaman Body and Nash Motors have been going at their normal rate - about 600 jobs per day. This morning we received a request from Seaman Body to hold up all materials and make no further shipments until advised. This indicates that Nash Motors have suddenly hit a slump and their orders will no doubt be small for the next sixty days.

Chrysler Corporation are going at a rapid pace - making approximately a total of 800 jobs per day - including bodies from Budd, Fisher and their own body plant. At their own plant, they are turning out close to 500 jobs per day, which are finished in our materials complete.

Hudson and Essex Production has been very low, but their present schedule is as follows:

Essex	400 jobs per day
Hudson Brougham	60 " " "
Sedan	12 " " "
Coach	90 " " "

The Hudson business is fluctuating so much that it is almost impossible to give anything definite as to what their future will be.

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NOTE: "gmc-594f" is written in lower right corner of this document.

3903

.....  
Hupp production is running about 150 jobs per day, which is 50 less than in September. No further shut-down is anticipated.

Marmon production is 15 jobs per day and some time during November, they plan to get in their new job which will increase their production to possibly 100 jobs per day.

.....  
R. C. W.

Asst. Mgr. Automotive Sales

1619

Recd. Oct. 10, 1926	Actual Budget	Sept	Oct	Nov	Dec
Buick	28000	21000	26000	26000	17000
Cadillac	29000	30000	25000	25000	21000
Chrysler	68000	70000	65000	44000	15000
Chevrolet	97000	84000	68000	51000	53000
Pontiac	100000	110000	120000	100000	70000
Olds	86000	91000	69000	35000	65000
B. de Canada	62000	81000	60000	43000	22000
Total	1334000	1376000	1255000	961000	551000



Sept 25th forward

10/9/26

Oct 10/28/26

	Sept Aug	Prodit Sept	Oct	Nov.	Dec
Brock	29355	29131	27267	26679	18517
Cadillac	2802	2915	2700	2400	2000
Chrysler	73323	75382	70490	49865	15000
Chrysler	8713	7422	5802	4781	4297
Pontiac	9264	10457	11215	8780	5534
Olds	7623	8106	5931	2462	5477
G M. Canada	5168	7063	5035	3048	1232
Total	136248	140476	128510	97515	52057
Aug forward	132725	137984	114452	87608	-

the fund

3906

November 11, 1926.

Mr. Lammot duPont, President,  
E. I. duPont deNemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

Dealing with yours of the 9th and referring to my conversation with you this afternoon after the Board meeting, let me say that I have no objection to your giving our schedules to Mr. Allen confidentially, but I am only willing to do that because you are a member of our family, for under no circumstances would we wish our schedules to get into outside hands and the only modification is the argument that you are not an outside party.

As I told you, we take the position that our schedules, i.e. our manufacturing schedules, are of no concern to our suppliers. On the other hand, our suppliers are entitled to shipping schedules predicated upon our schedules as they may be modified by our inventory.

I feel very keenly that our divisions should cooperate closely with their suppliers and that modifications either up or down of our shipping schedules, should be minimized to the fullest possible extent, otherwise it tends to increase the cost which in turn we must pay. Therefore, the nearer we can come to a level line in our shipping schedules, the lower our costs and the better our product is sure to be.

As I explained to you, four or five years ago our organization was far from satisfactory in this respect and these things were not properly taken care of. We have, however, made tremendous progress, as you know, since then and

1622

for a long time now I have had no complaint on this score and I believe, in view of the fact that our shipping schedules to suppliers must be predicated upon our manufacturing schedules, that the very great stabilization of our manufacturing schedules which has been developed is bound to be reflected in our suppliers shipping schedules. However, you have raised an important and interesting point and I am going to look into the matter and see just what the present situation is.

I hope, therefore, in giving our schedules to Mr. Allen you will be sure to impress upon him that they are strictly confidential and should be used exclusively for his personal information, and should

—2—

under no circumstances be bulletined out to his organization because in that event leaks will occur and our position is sure to be prejudiced.

Very truly yours,

APSJr./K

c/c Mr. J.L.Pratt

NOTE: "gmc-prod-Supp & Materials-paints-Duco-1926", followed by an illegible initial, is written across top of 1st page; check mark appears over "9th" in 1st line; "11/25" is written above a check mark in right margin of 1st page; routing stamp bearing initials A.P.S., J.L.P., H.M.C., F.C.H., A.K.H., L.R.B., A.T.B., and W.F.A., with check marks inserted by hand after "A.P.S." and "A.T.B.", appears in lower right hand corner of first page. Underscoring in 1st paragraph of first page is by hand.

November 15, 1926.

Mr. A. P. Sloan, Jr.,  
President.

I note from your letter of November 11th to Mr. Lamot duPont that you have no objection to Mr. duPont giving our schedules, as shown in Finance Committee reports, confidentially to Mr. Allen, head of the DuPont Paint Division.

Personally I think this is wrong, as I do not feel the DuPont Company should be put in any different position whatever than other suppliers from whom General Motors is buying many times the amount we are purchasing from the DuPont Company. In taking this position it is not primarily from a General Motors' standpoint but because I feel that the DuPont organization will be a better organization for us to do business with when they realize they must stand on their own and expect to get business and hold same from General Motors Corporation on the same basis that we try to treat all of our suppliers—three considerations—namely, quality, service and price.

In the recent slowing-up of business the complaint of the DuPont Company on change in our schedules is the only one that has been reflected to us from thousands of suppliers. Does it seem reasonable that there should be any reason why the DuPont Company would not have received information to guide them as well as our other suppliers? Notwithstanding this complaint, Mr. Knudsen advises me that the Chevrolet Division have more Duco on hand, from the standpoint of requirements, than any



other material. The only reason I know of for this is that this material was taken in on account of special consideration given the DuPont Company.

I can not help but feel that if the DuPont Company could be made to thoroughly realize that they can expect no special consideration except what they earn through service to our Divisions, they would have established—through their contact men in Detroit—a relationship with our Divisions that would enable them to have information which would be better to guide them, from a production standpoint, than any information that could be gleaned from the reports of the Finance Committee, which may be anywhere from ten to forty days behind the true conditions at our plants.

—2—

The trouble here may largely be due to our policy of making General Motors contracts rather than allowing each Division to contract for its own requirements, but as far as I know all of our suppliers under General Motors contracts realize that General Motors contracts do not in any sense relieve them of the responsibility of keeping in close touch with the various Divisions in order to render proper service as to deliveries and requirements. If Mr. Allen feels that he can count on information from Mr. duPont, as to what General Motors' requirements of Duco are going to be, then Mr. Allen's organization in Detroit is not going to be as close to General Motors' Divisions as they should be in order to render the service General Motors has a right to expect. Mr. Allen can get together a personnel in Detroit that can establish a relationship with our Divisions, which could secure for him the information such as our other suppliers are getting to satisfactorily guide them in their production schedules.

3910

For us to make it possible for the DuPont organization to get this information otherwise, in my judgment is doing the DuPont organization more harm than good, and is placing us in the position of not dealing evenly with all of our suppliers.

.....  
Vice President.

JLP:V

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NOTE: "G.M.C.—Products—Supplies & Materials—Paint—Duco", followed by an illegible initial, is written across top of 1st page; check mark appears over "11th" in 1st line of 1st page; "11th" is scored by hand.

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3911

GENERAL MOTORS CORPORATION  
224 WEST 57TH STREET  
NEW YORK

November 16, 1926.

Mr. Lammot duPont, President,  
E. I. duPont deNemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

Referring to my correspondence with you with regard to the matter of schedules, etc., I sent copy of my last letter; viz., November 11th, to John L. Pratt as Chairman of our General Purchasing Committee who is interested in matters pertaining to schedules, etc.

He has looked over this letter and has sent me a memorandum on the subject, dated November 15th. I am enclosing herewith copy of said memorandum as it has a bearing on the matter and I am sure you will be glad to know what he has to say.

Very truly yours,

*Alfred P. Sloan, Jr.*

APSJr./K

att.

NOTE: "gmc-592" is written in lower right corner; "C-26" is written in upper right corner; "file" is written in upper left corner; "RECEIVED NOV 18 1926 LAMMOT DU-PONT" is stamped at top of page. Italics indicate handwriting.

1627

3912

Mr. Fred G. Hughes, Gen. Mgr.,

New Departure Mfg. Co.,  
Bristol, Conn.

J. L. Pratt, Vice President

New York, N.Y.

December 7, 1934.

Dear Fred:

Some of my friends in the duPont Company called me today in regard to the fact that their subsidiary, The National Ammonia Company, were losing the ammonia business which they had formerly enjoyed with the New Departure Mfg. Company. They tell me that their price and service is in every sense competitive.

If this is true, I would be interested if you would look into this and advise me of the reason why it is desirable to give your ammonia business to others than the duPont subsidiary; namely, The National Ammonia Company.

Yours very truly,

J. L. PRATT

JLP:P

NOTE: "Accessry—New Dept—Products—Supp & Mat  
—Nat'l Ammonia Co" is written across top of page. A  
small "R" is written in upper right corner.



3913

NEW DEPARTURE DIVISION  
GENERAL MOTORS CORPORATION  
INTER-ORGANIZATION LETTERS ONLY

December 10, 1934

Subject  
From  
For Attention of

Mr. John L. Pratt  
Vice President  
General Motors Corp.  
Broadway at 57th St.  
New York City, N. Y.

Dear Mr. Pratt:

Subject: Ammonia Requirements

In reply to your letter of December 7th, this is to advise that while we are not very large users of ammonia, we have for sometime past purchased our requirements through the National Ammonia and the Barrett Company.

When we began to use National Ammonia for bright annealing our separator blanks, we had considerable trouble with water in their anhydrous ammonia which ruined the product.

We had no such trouble with that from the Barrett Company. In the meantime, the General Motors Fleet Sales Company called our attention to the fact that the Barrett Company were large users of General Motors trucks and that anything we could do to help them would be greatly appreciated.

In view of the unsatisfactory quality of the National product, and the Barrett ammonia being more satisfactory, and

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also that our business would be helpful to the Fleet Sales Company, we changed to the Barrett Company as supplier. We did not know that the National Ammonia Company was a duPont subsidiary, but I do not believe that under the circumstances it should have made any difference.

Very truly yours,

*F. G. Hughes*  
General Manager

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NOTE: "Accessry—New Dept—Products—Supp & Mat—Natl Ammonia Co" is written across top of page; check mark appears over date in first line; "J.L. Pratt Answered Noted" stamp appears in upper right with "12/14" inserted by hand after "J.L. Pratt". Italics indicate handwriting.

2

1630

3915

December 14, 1934.

Mr. Robert McClellan,  
National Ammonia Company,  
duPont Building,  
Wilmington, Delaware.

Dear Bob:

You will remember calling me last week in regard to purchases by General Motors Divisions of ammonia other than from the National Ammonia Company. I think you would be interested in seeing a copy of letter of December 10th from Mr. F. G. Hughes, General Manager, New Departure Division, on this subject.

Don't you think it would be desirable for your organization to contact more closely with General Motors Divisions that you hope to interest in your product from two standpoints: first, see whether or not your ammonia really is suitable for the work in our division (note second paragraph of Mr. Hughes' letter); and second, that you might inform the management of your relationship to the General Motors Corporation.

And now, you will pardon me if I get a little personal, and advise that last week I was four nights on the sleeper and four nights this week, and suggest that it might do some of the desk warmers in the duPont Company good to get around once in a while. What do you think?

Please call me any time that you think I can be helpful.

Very truly yours,

J. L. Pratt  
Vice President

JLP:P

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Mr. F. G. Hughes, General Manager,  
New Departure Division,  
Bristol, Connecticut

J. L. Pratt, Vice President  
New York, N.Y.

December 14, 1934.

Dear Fred:

Please accept my thanks for yours of December 10th  
in regard to your ammonia requirements.

The reasons given for your purchase of ammonia from  
the Barrett Company are entirely satisfactory. However,  
I have suggested that a duPont representative call on you  
and see if they cannot make their product satisfactory to  
your requirements.

Yours very truly,

J. L. Pratt

JLP:P

NOTE: "Accesry — New Dept — Products — Supp &  
Mat — Natl Ammonia Co." is written across top of page.



**GENERAL MOTORS CORPORATION** 3917  
224 WEST 57TH STREET  
NEW YORK, N.Y.

OFFICE OF THE PRESIDENT

October 19, 1922.

Mr. Irenée duPont, President,  
E. I. duPont de Nemours & Co.  
Wilmington, Delaware.

Dear Sir:

(3) In view of the great promise of the duPont products called "Duco" and "Viscolac" and the large quantities of these materials that may prove necessary for General Motors business, I request that all negotiations with other possible consumers be stopped and also the plans for selling these products in the open market, until such time as a suitable conference may determine whether it is possible for General Motors Corporation to obtain the entire product of the duPont factories over a period of time in order to insure a satisfactory quantity of material.

I recommend that representatives of the duPont Company prepare rough estimates of the total material necessary for the finishing of the several General Motors cars, including bodies finished by the Fleaher Body Corporation, in order that a rough plan may be drawn up with a view to producing a sufficient quantity of material. The importance of this subject is so great as to warrant the careful attention of your best men until proper arrangements are made.

Very truly yours,

*J. S. D.*  
President.

NOTE: Number written in lower right is "gmc-567a".

3918

MEMORANDUM

New-York, October 19, 1922.

To MR. A. P. SLOAN, JR. . . . . SUBJECT

Attached please find copy of letter to Mr. Irenee duPont. Will you please instruct the several Divisions to give the duPont Company some rough estimate of duPont enamels that may be required by them. This business may prove to be a large one and will require the construction of additional facilities. If the materials develop successfully, no time should be lost in their introduction on all of our models.

*P. S. du Pont*  
President.

l/\*m.  
Enclosure.

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NOTE: "RECEIVED OCT 20 1922 A. P. SLOAN, Jr."  
is stamped twice at top of page. Italics indicate handwriting.

3919

Wilmington, Del., October 13, 1922

TO: EXECUTIVE COMMITTEE

FROM: CELLULOSE PRODUCTS DEPARTMENT

CELLULOSE PRODUCTS DEPARTMENT  
MONTHLY REPORT—SEPTEMBER, 1922

IMPORTANT FEATURES:

During September we secured fifteen new lacquer customers, with an approximate annual consumption of 4,400 gallons, twenty-one new enamel accounts with an annual consumption of 11,000 gallons, seven new bronzing liquid accounts with an annual consumption of approximately 6,700 gallons, and four new bronze powder accounts with an annual consumption of approximately 7,250 pounds.

We are hopeful of doing a larger volume of bronze powder business, at a better margin, as a result of the new tariff, as reported separately to the Executive Committee last week.

DUCO FINISH—GENERAL MOTORS:

There is a rather well defined feeling in the General Motors Company that they would like to have us give the General Motors Company exclusive right to the use of this new finish. This first came to our attention thru Mr. Irene DuPont, and in a recent meeting at Detroit of the General Motors Paint Committee, at which we had the privilege of having one of our representatives present, this same feeling was very definitely expressed.

We have seriously considered this whole matter, not only from our selfish standpoint, but also from the bigger standpoint of the ultimate best benefit to the DuPont stockholders, having in mind their very considerable stock interest in General Motors. After weighing all the factors we have come to the definite opinion that it would not be to our best interests, nor General Motors', to give them this exclusive right.

In the first place the Viscolac and Duco finishes have wide application in lines other than automobiles. It has not been expected that such exclusive right to General Motors would be intended to apply to anything but the automobile field. It can be seen, however, that if other automobile interests really wanted this material we could not control their getting it if purchased indirectly for use in some other industry.

Further, even in the automobile industry a large field is in the re-painting of cars and the finishing of automobile parts, from which again we do not understand General Motors would expect us to exclude the use of this material, but which on the other hand would open further possibility for this material to get to other automobile manufacturers who really were seriously interested in having it.

And, finally, our patent situation is not clear or definite enough to make us sanguine that imitations, at least, of our material will not be offered by competitors. We know for a fact that several of the larger paint companies are already going into the business, and if we were to give General Motors Company the right to exclusive use of our material we feel that, if anything, it would spur on competitors to work the problem out in order to supply the demand from the remainder of the automobile industry, and so only excite competition.



Our thought is that any competitive advantage that General Motors might obtain by getting the exclusive use of our finishes must be temporary only, and if, as we reason it, this would have the effect of encouraging competition in the field, we believe that we would be better off all around to take full advantage of the advantageous start that we now have in the matter by being first in the field and getting entrenched just as widely as possible, and in the end General Motors cannot help but benefit by the resulting economies and further improvements that would naturally follow.

In this connection, also, we have to report that discussion has arisen as the result of question raised by the Flint Varnish Works in connection with Duco Finish. The Paint Department feel that we should, in effect, turn the entire distribution and part of the manufacture of this product over to them. We have not been convinced by their reasons and do not think the ultimate best interests of the DuPont Company would be served by such procedure. The Development Department are at the present time making a study of the whole subject. We hope that the light that they will be able to throw on the matter, looking at it from the broad interests of the whole Company rather than from a departmental point of view, will permit an early decision.

#### PROMOTION OF NEW LINES (Manufacture and/or Sales):

In the promotion of sales of Duco Finish to automobile manufacturers considerable progress was made during September. The detailed status of our work at each of the General Motors Plants is as follows:—

##### CHEVROLET—

Duco Finish has been officially adopted for instrument boards on all models. Several cars finished with Duco

Finish are undergoing service tests and frequent inspection under the personal supervision of Mr. Knudsen, General Manager. Chevrolet is now considering the adoption of Duco Finish as standard for delivery cars, several hundred of which are made daily at their St. Louis Plant. We have been asked to develop a new Black Duco Finish suitable for their regular production of touring cars, and when this is turned over to them it is expected that later 100 or 200 cars will be finished with it for regular sale.

#### BUICK—

This plant has the most comprehensive series of tests under way of any of the General Motors units. About twenty cars representing various methods of using our finish, and including a number with the standard Buick finishing varnish as a top coat, are undergoing service tests. At present Buick is so rushed in production that no time can be spared for experimental work, but it has been decided as soon as possible to finish twenty cars with Duco and finishing varnish for unrestricted sale.

—12—

#### OLDS:

After only brief tests, the officials of this company had sufficient confidence in Duco Finish to put it gradually into regular production, and one car finished in Duco now goes out every three days.

#### CADILLAC:

Our first demonstration at this factory was made in September, and the two cars finished then must undergo a

rigorous service test before the adoption of the finish will be considered. It was evident, however, that Duco has made a very favorable impression on Cadillac officials.

#### OAKLAND:

The situation here is practically the same as at Cadillac. Two cars were finished in September and are now on service tests.

We are also now offering Duco Finish outside of General Motors. The Franklin Company is to have a demonstration during October, and through Mr. H. J. Haon we have established a connection with the Pierce-Arrow Company which is expected to lead to a demonstration in October.

Our campaign for the sale of Duco to refinishers has been speeded up somewhat, and a number of demonstrations were made in September. The most important connection established was with the Dunham Company of Newark, one of the largest body builders and refinishers in the east. The Brewster Body Company has asked for demonstration early in October.

The adoption of Clear Viscolac for steering wheels by Dayton-Wright was reported last month, and in September another manufacturer, Allerding of Mansfield, Ohio, began using it on his wheels. The Franklin Automobile Company has also been very much pleased with the sample wheels we sent them, and expect to adopt it as soon as their present contracts for wheels expire.

Two furniture manufacturers in Grand Rapids have started using Viscolac in a small way, but we feel that an opening has at last been obtained which will lead to greatly increased sales soon in this industry.

3924

COPY FOR MR. WM. RICHTER

October-20, 1922.

Mr. P. S. du Pont, President,  
General Motors Corporation,  
57th & Broadway,  
New York City.

Dear Pierre:—

This will acknowledge your letter of the 19th:

The Chemical Products Division will be pleased to have their representative meet with whomever you may designate to estimate the quantity of "Duco" and "Viscolac" which may be required for General Motors business. We have very little doubt that we can supply all that they need, given a reasonable time to enlarge our plant facilities if this should be necessary.

We are embarrassed at your request to stop all negotiations with possible consumers and plans for selling these in the open market, this because we have already started a number of small users in business and cannot now cut them off from their source of supply. Also, the rumors of the value of these products are spreading and inquiries will be received from others who are users of Fabrikoid, Pyralin, etc., and we would be in a most embarrassing position to have to refuse sale of "Viscolac" or "Duco." This might even result in their ceasing to use Fabrikoid and Pyralin by way of retaliation. Finally, if we don't sell on the outside the demand will be filled by other manufacturers which will entrench competition for us at a later date.



Have discussed this question with Mr. R. R. M. Carpenter, Mr. Richter in the absence of Mr. Allen, and Lamot du Pont, all of whom feel we would be making a serious mistake to at once act on your letter. We all feel sure that if we agreed to supply nobody but General Motors it would not yield General Motors any advantage excepting for the first few months while others are getting ready to manufacture this product. In fact, we have already heard of one of our competitors starting to manufacture a similar product for one of the larger varnish concerns.

Sincerely yours,

IRÉNÉE DU PONT, President

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NOTE. "File Copy" is printed diagonally across the face of both pages.

3926

EXCERPTS—

Wilmington, Del., November 17, 1922

TO: EXECUTIVE COMMITTEE

FROM: CELLULOSE PRODUCTS DEPARTMENT

CELLULOSE PRODUCTS DEPARTMENT  
MONTHLY REPORT — OCTOBER 1922

W. P. Allen  
GENERAL MANAGER

A representative of this department was present at a meeting of the General Motors Paint Committee held early in October at Detroit. The General Motors people plan to proceed more rapidly now altho they still consider Duco as an experimental finish yet under test. The outstanding development of this meeting was the unanimous agreement of those present (all G.M. units being represented except Fisher Body) that Duco, on the basis of the tests already finished, is superior in durability to any of the Paint & Varnish finishes now in use.

The "exclusive right" question was talked of and was based on the fear that our facilities would not be adequate to insure General Motors an uninterrupted and sufficient supply for their requirements. We assured the General Motors people that we will provide ample equipment to care for their needs if they will tell us how much Duco they want, and when it will be required.

It is probable that future work on Duco for General Motors will be delegated by the Paint Committee to two men, one representing General Motors and one representing the duPont Company.

A successful demonstration of Duco was made at the plant of the Franklin Company, at Syracuse, and five cars finished by our process are now out in service tests. Later their representative came to Parlin to follow the matter up.

Progress was made with both Viscolac and Duco in the furniture field, particularly in the North Carolina section, and it seems probable that an active campaign in that district to follow up our demonstration work will prove profitable.

Progress with the sale of Duco to the automobile refinishing trade can also be reported, the most important de-

velopment being the decision of the Dunham Company of Newark to install our process at once. Demonstrations are now being made in the larger cities of New York State.

#### COMPETITION:

Call their  
attn to  
this?

The price situation during the month on lacquers and enamels remained about the same as reported last month, with two exceptions; the first being a circularization campaign on the part of the Eastman Kodak Company in which they are offering good grades of lacquer at prices appreciably below ours. So far we have not heard of their making any progress with any of our customers, but the amount of harm that they can do by pursuing these policies should not be minimized.

The other exception is the activities of the Palmer-Price Company (Flood & Conklin) whose policy seems to be to work on our old customers. So far they have not been able to show a customer a better material than our Viscolac, altho some customers tell us that their lacquer is as good as ours.

—19—

#### UNFILLED YARDAGE

	<u>Newburgh</u>	<u>Fairfield</u>	<u>Total</u>
At once	398,904	43,768	442,672
Indefinite	92,958	59,079	152,037
November	142,125	141,597	283,722
December	73,772	61,633	135,405
January	18,460	1,800	20,260
TOTAL	726,219	307,877	1,034,096
Booked, not specified	248,820	1,080	249,900
GRAND TOTAL—OCTOBER	975,039	308,957	1,283,996
“ “ —SEPTEMBER	670,647	207,374	878,021



Yardage booked in October is about 75% greater in volume than September bookings and is about the same as that for August.

Prospects in the auto field continue to be rosy. The question of price will be the deciding factor in securing this trade, however, as evidenced by the result of our quotations to Maxwell, Willys-Overland, Paige, etc., all of which business went to competitors at prices lower than ours. (This is set out in detail further along in this report under the caption "Competition").

We have been handicapped in going after the increasing number of inquiries and orders for limousine quality for closed job decks, due to our inability to furnish Cobra roller grained material. At present we can only supply this in plate grain which is not free from plate marks. Textileather and O'Bannon have landed Fisher Body business due to their having Cobra rollers. It will be two or three months before we are in shape to submit samples, and probably next spring before we can go after this type of business.

*Why are  
we so slow*

Trunk covering trade is going strong with excellent prospects for the future. The furniture field is quiet and we feel this is partly due to the larger firms being stocked up on leather substitutes to last until the end of this year.

Case covering prospects are bright particularly for next year's business, and we are now working on inquiries for an appreciable yardage covering first half of 1923. Due to the continued low prices of real leather the holiday business in the novelty field shows no indications of picking up.

During October we received orders from the Ordinator Co. for some 70,000 yards of Tontine, leaving unfilled orders of 126,000 yards on the books.

Good orders from trade in the bookbinding field were received, including 39,000 yards of sheetings from two of our accounts to be used for Alexander Hamilton Institute book work. However, the volume of business coming in from the bookbinding trade is somewhat below normal with the prospects of no material increase until after the first of the year.

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NOTE: Italics indicate handwriting. Lines in left margin, and underscoring in 1st paragraph, on page 10 are by hand. "gmc 1379" and "gmc 1380" are written in the lower right corners of pages 10 and 19, respectively.

3931

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

ADVICE OF ACTION

February 16, 1923

Mr. W. P. Allen, G.M.

SUBJECT RELATIONS WITH GENERAL MOTORS  
CORPORATION:

ACTION TAKEN BY Executive Committee  
AT MEETING February 14, 1923

REMARKS

Your report of February 12th:

It was moved and unanimously carried that this report be accepted and ordered filed, and that the Cellulose Products Department be advised it is the opinion of this Committee that the General Motors Corporation should not be given exclusive right to the use of Duco Finish.

[Stamp] M. D. FISHER

23. Sec'y. Executive Committee.

NOTE: "gmc-920" is written in lower right corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom; "X-1100" is written in upper right corner.

3932

TEST NO.

FILE REFERENCE

Sheet #1.

DATE February 21, 1923.

GENERAL MOTORS RESEACH CORPORATION  
DAYTON, OHIO.

REPORT ON Methods of finishing automobiles using Duco material.

REPORT FOR Mr. F. O. Clements.

The finishing of surfaces with paint materials of any kind may be classified under the following headings.

1. Preparation of the surface.
2. Priming coat.
3. Surfacing coats.
4. Color coats.
5. Operations required for obtaining a smooth surface.
6. Finishing coat.

Before discussing the application of the duPont material under the above headings, attention should be called to the composition of the present Duco material and its relation to the lots of duPont material previously tested at the different plants.

The first cars which were finished with duPont materials were finished at the Buick plant and started on road test about Decoration Day, 1922. These cars are holding up



very well. The material used on these cars was poor in hiding power and in order to overcome this fault, the duPont Company developed a new line of materials known as Duco materials. The early Duco materials used at the Buick, the Olds and the Oakland plants were of this material. The early Duco materials covered well, but in getting this increased covering power, the toughness was lost. This matter was taken up with the duPont Company and they have been working on the problem of increasing the toughness of the Duco materials.

On February 10, 1923, we received from the duPont Company a sample of new Duco black #2442 and new Duco blue #244341. On February 12, 1923, we received from Mr. Kavanaugh, a sample of the Duco green which is now being used on experimental cars at the Cadillac. On comparing these new materials with the former duPont materials, we find that although the newest materials have excellent hiding power, they are much tougher than any of the former duPont materials, even including the materials originally used on the cars put out at the Buick plant Decoration Day, 1922. When tested under the ultra-violet light, we find that they hold their toughness much longer than any of the former duPont materials.

It is our understanding that none of the blue received at any of the plants prior to February 1923 is this tough

—2—

Sheet #2.

material. The black which was being used by Mr. Rogers at the Oakland plant in January 1923, was much tougher than any black which Mr. Rogers had previously used, and it may be that this latest black used by Mr. Rogers is the

same as the black we received from the duPont Company, February 10, 1923.

We believe that cars properly finished with either the green, such as we received from Mr. Kavanaugh, February 12, 1923, or the black or blue, such as we received from the duPont Company, February 10, 1923, will give much better results in service than the best results which we have previously obtained using the duPont materials.

Attention should be called to the fact that this new Duco material requires a longer time for drying between coats. If coats are applied one on top of the other, without allowing proper time for each coat to dry, we believe that the advantages of this tough material will be lost and in order to secure the best results, we strongly recommend a thorough drying between coats, or a light bake, for example, about 1½ hours at 150° F. If baking is not considered desirable, equally good results can be obtained by allowing a longer air drying time.

#### APPLICATION.

1. Preparation of the Surface.
2. Priming Coat.
3. Surfacing Coats.

The metal may be prepared for painting in a number of ways.

- (a) Washing to remove dirt and grease.
- (b) Washing and treating with rust removers, such as deoxidine or removaline.
- (c) Etching with acid to give a surface which has a "tooth".
- (d) Sand blasting.

If the duPont material should be applied directly to the bare metal, poor adhesion will be obtained unless the metal is either acid etched or sand blasted. It is possible to obtain a satisfactory tooth with acid etching, but this method is very unreliable and we do not recommend its use.

—3—

Sheet #3.

The amount of etching required to enable the duPont material to have good adhesion is very great and rust removers, such as deoxidine or removaline do not accomplish the desired results.

If the duPont material is applied direct to steel, certain colors of duPont material may tend to cause corrosion on the surface of the steel. The white or grey duPont material appears to be freest from this trouble.

If a sand blasted surface is used, then such a large amount of duPont material is required to cover this surface and the imperfections in the metal, resulting from sand blasting that the cost of obtaining a smooth surface is very great with the present duPont material. The duPont Company are working on the preparation of primers and surfacers for sand blasting steel but are not ready to offer these for our use at present. Under these conditions we believe that best results will be obtained by using a sand blasted surface and following this with a priming coat of paint material. The paint primer should be thoroughly baked and should not be air dried.

It has been found that air dried under-coats, regardless of the length of time of drying, are softened by the solvents in the duPont materials as these solvents are paint and

varnish removers. It has been found that by baking the under-coats, the action of the solvents in the duPont material can be reduced to such an extent that no trouble is experienced due to their action as paint and varnish removers.

Although we believe that our greatest chances of success lie in using sand blasted metal, followed by a well baked out paint primer, yet it appears that it may be possible to secure good results on smooth metal if a well baked out baking paint primer is applied to the smooth metal before the duPont material is applied.

#### 4. Color Coats.

#### 5. Operations required for obtaining a smooth surface.

When regular paint materials are used, ground color, color varnish and rubbing varnish are applied over the primer or surfacer in order to obtain the desired color and these materials are then rubbed in order to obtain a smooth finish. We believe that at present the greatest use of duPont materials is in replacing ground color, color varnish

—4—

Sheet #4.

and rubbing varnish. Enough coats of the duPont material must be applied to give a surface which may be rubbed. The number of coats of duPont material required depends on the smoothness of the under-coats, the smoothness with which the duPont material is applied and the smoothness desired in the final finish.

Under very favorable conditions, cars have been finished using two coats of duco material over the surfacing coats



and a smooth satisfactory finish obtained. Mr. Rogers the Oakland plant has done the most work along these lines.

#### 6. Finishing Coat.

At present we have several methods available as the finish obtained on cars using the duco material.

- (a) The natural finish left by spraying duPont material over the proper under-coats.
- (b) The finish obtained by rubbing the duco material and then obtaining a semi-gloss by means of oil rub.
- (c) Rubbing the duPont material to a smooth surface and then using a wax finish over the rubbed surface.
- (d) Rubbing the duPont material to a smooth surface and then applying a finishing varnish in accord with our present practice on paint jobs.
- (e) Rubbing the duPont material and then applying finishing varnish of much greater durability than any finishing varnish now used by General Motors Companies.

We recommend that methods (b) (c) and (e) be tried out in Production to get service data on cost of application, durability, etc. We suggest that the selection of several finishing varnishes for use on test cars be made by having several varnish companies recommend the most durable finishing varnishes that they make and having these varnishes checked up for drying, flowing, lustre, etc. by Mr. Rogers.

H. C. Mougey.

M:B

3938

February  
Twenty-eighth,  
1923.

Mr. F. O. Clements,  
General Motors Research Corp.,  
Dayton, Ohio.

Dear Mr. Clements:

At the Cadillac, we are greatly interested in the paint investigation and I have read the report enclosed in your letter of February 22nd with approval in general but with this reservation, which to me is very important—your suggestion making "all speed possible."

I agree that all speed should be used in making the investigation but I think one of the most dangerous things the Corporation could do would be to adopt, generally, the new method of painting before it had been tried out in every conceivable fashion. I can conceive of a bad engine or other mechanical fault in a car which would do less damage, from an advertising standpoint, than poor paint. We know we have troubles enough as it is and our investigations are being made for the purpose of correcting them but we must be very sure of ourselves before making any wholesale change.

When the du Pont people were here a couple of weeks ago, they admitted that materials they had already finished were not just right but they had corrected them. I think we should take nobody's word on paint.

Unfortunately, testing of paint requires time and we cannot make speed in the test themselves. We can only be expedi-

tious in making our tests immediately of every new and changed material.

With this thought in mind, I cannot help commenting on Mr. Mougey's report. The first line of materials was poor in "hiding power," so that to overcome this fault a "new line" of materials was developed but "the toughness was lost."

Now, as late as February 10th of this year, new materials which are expected to have both covering qualities and toughness are submitted and Mr. Mougey reports that they do have excellent hiding powers and when tested under the ultra-violet light, show greater toughness than any former du Pont materials but "none of the blue as yet received is of this tough material."

—2—

Black, as we know, is easy to control and that we have been testing only since January of this year.

Mr. Mougey "believes that cars properly finished with green or the black or blue received from the du Pont Company February 10th and 12th, will give much better results."

Attention is called to "longer time for drying needed between coats, in order to attain the toughness," but experiments have not yet been made to tell how much "longer air drying time," is needed.

It seems to me that there is still considerable uncertainty as to the best way to prepare the surfaces and that sheet #3 indicates how much pioneer work in this respect is still to be done. Sheet #4, likewise is suggesting that experiments be made as to the best finishing varnishes to use in connection with the Duco.

I merely quote the above from the report because I am exceedingly anxious that neither Cadillac or any of the other divisions should go too fast in paint changes.

I am not lacking in faith that Duco will be a great help to us. When it comes to paint, we should put it to every test possible including the alkali districts of the country and your statement that you are anxious to make all possible speed as you owed it to the du Pont Company"who are besieged with requests for this material from various motor car companies, makes me feel that the whole paint question is likely to be approached from the wrong point of view because of the apparent urge for a decision.

I sensed that when we were called upon by Mr. Allen and others from the du Pont Company, the other day.

I am heartily in accord with any of the divisions putting out a reasonable number of test jobs and keeping them under observation, as well as shipping them to all different parts of the country to see what will happen when in the hands of the public when exposed to alkali, mud and other troubles. But I think our committee should not permit itself to make its recommendations until we are quite sure and I believe the report by Mr. Mougey of February 21st, is sufficient to show that this policy should be followed.

Very truly yours,

HHR\*H

President.

NOTE: On first page, "1-615 Paint. y" is written in upper left corner, illegible initials or other writing appears in upper right corner, and check mark is drawn above "22nd" in first paragraph. Routing stamp bearing initials A.P.S., J.L.P., . . . , W.J. , A.T.B., & W.P.A., with check marks inserted by hand after "A.P.S." and "A.T.B.", appears in lower left corner of first page. Underscoring in first line of sixth paragraph on second page is by hand.



3941

**GENERAL MOTORS RESEARCH CORPORATION**

**DAYTON, OHIO.**

April 18, 1923

Mr. A. P. Sloan, Jr., Vice-President,  
General Motors Corporation,  
New York, N. Y.

RECEIVED

APR 21 1923

A. P. SLOAN, Jr.

Dear Mr. Sloan:

I wish to thank you for your participation in our Enameling and Paint Committee conference, yesterday morning. It was a great pleasure for us to discuss the points involved, having you with us to counsel and help formulate our future program.

The boys suggested that you discuss with Mr. Irene duPont the question of keeping this development for the General Motors Corporation exclusively. Really, I do not believe that this need concern us very much. In the first place, the duPonts are having a very difficult time finding sufficient solvents to keep us going in our experimental work alone. Oakland's requirements, if they go into production with this material, the first of July, will be about one hundred and fifty (150) gallons per day. If Mr. Fisher carries through his program of finishing a thousand or two thousand Chevrolet closed bodies with this material, another quite appreciable order will be placed with the duPont Company for materials. Understanding the situation as well as I do, with reference to scarcity of solvents, I am certain that they cannot furnish Duco to other automobile concerns.

It really is unfair to ask them to delay everything for us, due to the fact that some of their competitors are also making this material and a binding contract with the duPonts would not give exclusive right to this type of material. We will, however, have the Paint Section do everything possible to build finishes around their ways of utilizing this material.

We shall be glad to have your comments, relative to the finishing-cost figures, as soon as you have had time to peruse them in some detail.

Very respectfully yours,

*F. O. Clements*

Director of Research



ROC-6

1657

3942

January 29, 1934.

Mr. Wm. P. Allen, General Manager,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

RE: MATTER OF DUPO FINISH

My dear Mr. Allen:-

I have your letter of January 11th and thank you very much for the information therein contained. I personally am very much interested in your Duco finish and without any disrespect to the very excellent people we have dealing with the matter, it is impossible to get a thing of this kind across without there are more or less objections and difficulties in the way of selling it to people who do not take kindly to making changes and who are liable to consider the always present first difficulties of insurmountable character and for that reason let me inject a little psychology into the situation which I hope will be helpful.

Regarding Cadillac, they are a very conservative organization. I personally do not agree with them at all in the necessity of having a higher finish than they now obtain with finishing varnish. That might have been an argument a year ago but the Oakland Company blew it to pieces and it is no longer an argument to any reasonable person. I will see what I can do toward helping the situation along.

Regarding Oakland, so far as I know, when I last contacted with that particular situation they were entirely satisfied. Mr. Hannum is an enthusiastic booster for Duco. I understand, however, that they are having a great deal of difficulty in getting closed bodies from the Fisher organization. Fisher does not seem to have got the knack of it in some way or other. I was talking to these boys the other day and I asked them if they would not contact more with the Oakland people. Mr. Hannum feels that if they would be guided by his extensive experience there would be no trouble but he feels that they feel they want to do it their own way and all that sort of thing. Just what the real facts in the case are, I do not know, but anyway Oakland is very desirous of getting this matter straightened out.

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Page #2.  
Mr. Wm. P. Allen,  
January 20, 1924.

Regarding Olds, I did not know just exactly what they are doing and I thank you for the information.

Regarding Buick, I think it would be very desirable if you could contact with Mr. Bassett of the Buick Company. I think it would help the matter along very much. They need to contacting with the man that is at the head of the institution they are dealing with and although Dr. Clements and Mr. Houguy are doing excellent work in promoting this thing, at the same time I think a little atmosphere from you to Mr. Bassett direct would be helpful. I only make this as a suggestion.

I am pleased to note that your difficulties with butyl alcohol are well worked out and that that need not be considered a limiting factor from now on.

To sum up the situation, you realize as well as I do that if we are going to be extensive users of Daco on increased lines for the season beginning August first, we ought to be right in it now and there ought to be a very complete understanding with all our Divisions as to the possibilities in the case and to my mind this should come directly from you who are the responsible agent in the matter rather than through a third party. I think also it would be helpful if you yourself could get the opinion of our different Divisions on the various subjects confronting them and if you care to do this and will then advise me what your impressions are, I shall be very glad indeed to do anything I can to push the matter along.

Very truly yours,

A.P.M. Jr./K

DUCO FINISH

3944

February 4, 1934.

Mr. F. O. Clements, Director of Research,  
General Motors Research Corporation,  
Dayton, Ohio.

My dear Mr. Clements:-

I have your very interesting letter of January 26th together with copy of report of the meeting held on Tuesday, January 22nd which I looked over very carefully.

I note there still seems to be a considerable reluctance to accept Duco notwithstanding the tremendous gain from the standpoint of durability due to the fact that the high finish or lustre can not as yet be provided, at least to the degree they would like to have it. Personally, my own viewpoint is that this is a very great mistake and I should think with the experience Oakland has had and the demand for Duco finish even without the lustre, should be conclusive evidence that it can be put across in a big way. Personally, from the information I have I see no advantage at all in using Duco if we are to insist on a highly polished finish due to the break down of the outside varnish. Perhaps we better go along as we are.

I believe it is important to develop the real facts if they can be developed at this time relative to the cost of this job. I think that this is most important. Speaking frankly and perhaps confidentially, I am of the opinion that the sale of our lower priced cars will be much enhanced if we bring them out in colors, yet in view of the fact that they are low priced cars we of course can not sacrifice durability. I recognize that that means that we have either got to use Duco or black enamel and I understand that if Duco is used without the outside varnish coat that the durability is about an even break. I would not hesitate at all to do this if it were not for the cost factor and in the cost must be recognized time of handling the job here, affecting as it does inventory and all that sort of thing. As a matter of fact, we have before us at the present time quite an important consideration which would materially influenced if we had specific information on this subject.

Very truly yours,



3945

February 4, 1924.

Mr. W. P. Allen, General Manager,  
Cellulose Products Department,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

RE: DUCO FINISH

My dear Mr. Allen:—

Many thanks for your letter of January 31st. I sincerely hope that as a result of your visit to Detroit you will have been able to have contacted with our Divisions to the end that they have a very complete understanding of the various phases of this situation in order that they may act intelligently. Personally, I am very anxious to have them weigh fully and seriously the desirability of using Duco finish in a very large way on our models forthcoming August 1, 1924.

I have just received a very complete report from our Paint & Enameling Committee who met in Detroit Tuesday, January 22nd and discussed the progress made in the development of this situation since the last meeting. I am a little disappointed to find that there seems to be considerable reluctance on the part of at least Cadillac and perhaps Buick, to accept the fact that a car with a dull finish is as constructive as a car with a highly polished finish. In view of the experience of the Oakland Division I do not see how this can still exist, but there always seems to me a very great inclination not to accept a change rather than the

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feeling that we should progress and improve things. I recognize the desirability of being conservative and all that sort of thing, but that can be over-done as well as everything else.

Very truly yours,

A.P.S.Jr./K

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NOTE: Check mark is drawn above "31st." in first line; routing stamp bearing initials A.P.S., J.L.P., H.M.C., F.C.H., A.K.H., L.R.B., A.T.B., and W.F.A., with check marks inserted by hand after "A.P.S." and "A.T.B.", appears in lower right corner.

3947

March 25, 1934.

Mr. Wm. P. Allen, General Manager,  
Cellulose Products Department,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

MR. DUPOUX

My dear Mr. Allen:-

I have your letter of March 21st and have carefully noted contents of same. I am glad that you have seen Mr. Bassett and have gone into this matter so thoroughly. Mr. Bassett, I appreciate, undoubtedly has a better measure of the situation than I have, but my personal feeling is that there is plenty of evidence in the way the public is taking the Oakland finish to warrant the feeling that Buick could get away with it equally satisfactorily. Certainly, it is impossible to assume that if Cadillac can do it and Oakland can do it that Buick can not do it.

I will make a note to discuss this matter at the next meeting of our Operations Committee with a view perhaps of developing a little more atmosphere in the mind of Mr. Bassett.

Very truly yours,

A.P.S.Jr./X

1663

## EXCERPT FROM MINUTES OF MEETING #660 OF THE EXECUTIVE COMMITTEE.

E. I. DUPONT &amp; SONS &amp; COMPANY,

HELD IN WILMINGTON, DELAWARE, ON DECEMBER 31, 1924.

. . . . .

.....

SALES AND PURCHASE CONTRACTS:

The Secretary read to the Committee copies of letters dated December 26th and December 29th, 1924, from the Sub-Committee on Purchases and Sales to Mr. Wm. P. Allen, General Manager, Cellulose Products Department, advising of the approval of the following sales contracts:-

- 1) Contract with Showers Brothers, Bloomington, Indiana, covering their requirements of Dase and Thinner for furniture for the calendar year 1925, at prices of \$2.75 per gallon for Dase and \$1.75 per gallon for Thinner, all f.o.b., Parlin, N.J., these prices being guaranteed against any price decline made by us for similar quantity.
- 2) Contract with General Motors Corporation, Detroit, Mich., covering their requirements of Dase and Dase thinner for period December 1, 1924 to June 30, 1925, at prices of \$4.40 per gallon for Dase in all colors and \$2.00 per gallon for Dase thinner, all f.o.b. Parlin, N.J., and all subject to a discount of 6% and an additional 1% cash discount 10th proximo; net cash end of month following date of invoice, with no price decline guarantee.

The Secretary also read to the Committee copy of letter from the Sub-Committee on Purchases and Sales, dated December 27, 1924, authorizing the Pyralin and Purchasing Departments to cable the London Office to negotiate for German Synthetic Campher, - minimum 125,000 pounds, maximum 175,000 pounds per month - three months' supply at 50¢ per pound, or six months' supply at 48¢ per pound; in event six months is accepted we are to be protected against market decline for the last three months; terms, cash against shipping papers New York.



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After discussion, it was moved, unanimously carried that the above-mentioned letters be received and ordered filed, and that the action taken by the sub-Committee, as noted therein, be approved.

.....

I hereby certify that the foregoing is a true excerpt from minutes of meeting held at the Executive Committee, E. I. duPont de Nemours & Company, held in Wilmington, Delaware, on December 29, 1945.

E. I. duPont de Nemours & Company

EXECUTIVE COMMITTEE

E. I. duPont de Nemours & Company

December 29, 1945

1665

Government's Exhibit No. 401

EXCERPTS —

September 27, 1926

TO: EXECUTIVE COMMITTEE

FROM: PAINT, LACQUER & CHEMICALS DEPARTMENT

MONTHLY REPORT — AUGUST, 1926 — PAINT,  
LACQUER & CHEMICALS DEPARTMENT

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GMC-1055

## CP-3

increased every month since April, sales in August exceeding those of April by approximately 30%. August sales are 10% higher than July, 20% higher than June and 25% over the average monthly sales during the first half of this year. Sales for the first eight months of 1926 amounted to \$9,865,000 as compared with \$8,258,000 for a corresponding period of 1925. The increase of \$87,000 in August sales of Duco and Duco Thinner represents chiefly effect of larger sales to the automotive trade, particularly to the General Motors Units. Sales to the general industrial field exclusive of railroads and furniture manufacturers constitute approximately \$16,000 of the increase.

August sales of colored Duco to automobile manufacturers amounted to 130,356 gallons, of which 86,985 gallons represent sales to the General Motors group, while July sales were 109,221 gallons and 71,006 gallons respectively.

Sales of colored Duco to automobile refinishers in August were 24,798 gallons, as compared with 23,874 gallons in July.

August total sales of colored Duco amounted to 184,000 gallons domestic, and 6,000 gallons export, or a total of 190,000 gallons, distributed as follows:

General Motor Units	46%
Other Motor Manufacturers	23
Auto Refinishers	11
Railroads	2
Furniture Manufacturers	6
General Industrial	9
Export	3
	<hr/>
	100%

Increase of \$21,000 in August over July in sales of Parlin Chemicals other than Duco and Duco Thinner offset somewhat the decrease that occurred in the month previous, bringing the August sales on about a level with June. Since March, the peak month in sales of Parlin Chemicals, sales have shown a decline each month up to July inclusive, August representing the first

## CP-6

tions to their product. They no doubt will be the first concern of this kind to get under way, and estimated consumption of our material in their business runs in excess of \$500,000 annually.

SALES PROMOTION

Preparation for entry into a new field of the linoleum industry was started recently, through the manufacture of a plastic to be used as a binder for cork, wood flour, and pigment, the finished mixture to be calendered out in sheets, either clear or attached to a backing of burlap, felt or heavy paper. A preparation of this kind will compete directly with battleship linoleum, and has appealed considerably to the manufacturers. Developments have reached a point where we have a satisfactory product to offer and tests to date have been very successful. Bird & Company, large linoleum manufacturers, are very enthusiastic about it, and have under consideration plans for a factory to manufacture linoleum using this product. This should provide a very large outlet for pyroxylin materials.



COMPLAINTS

During August a further complaint was received from the Frigidaire Division of General Motors that the Duco we were furnishing them for an outside finish on their cabinets was unsatisfactory from several viewpoints. They also told us that the Sherwin Williams Company, without having had the opportunity to do experimental work in their plant, had offered a finishing schedule to them which was unconditionally guaranteed and which was cheaper than ours. To retain business of this important customer we were accordingly forced to lower our prices at the same time that we perfected new products more nearly meeting their requirements, and even this proved only a temporary measure. With rapidly increasing production their manufacturing problems have proved too much for their

CP-7

own organization to handle, and they have now asked us to station several of our experts in their factory and practically take charge of the finishing operations. For the present two of our most capable chemists, one of whom has had considerable engineering experience, are permanently assigned to the Frigidaire factory, and other chemists and engineers are brought out for consultation as needed.

As an instance of the length to which we are expected to go, they have asked us to work up a satisfactory packing and crating standard for their cabinets. This we are doing by bringing in outside experts employed by friendly customers in similar fields.

FAB-3

FAIRFIELD BRANCH:Sales.FAIRFIELD BILLINGS COMPARISON—DOLLARS

	August 1926	July 1926	Jan-Aug. 1926	Jan-Aug. 1925
Carriage Cloth—G M C	\$257 298	243 929	1 352 618	393 055
“ —All others	25 396	78 190	460 461	496 191
Specialties—Ventube	10 686	13 779	122 689	130 291
“ —All others	89 792	81 828	672 495	276 967
Export—All products	45 649	46 391	411 299	491 318
Total	\$429 021	\$464 117	\$3 019 562	\$1 787 822

Business Booked.FAIRFIELD BOOKINGS COMPARISON—YARDS

	August 1926	July 1926	Jan-Aug. 1926	Jan-Aug. 1925
Carriage Cloth—G M C	254 409	46 500	1 391 848	1 161 394
“ —All others	82 296	71 631	281 742	692 204
Specialties—Ventube	12 234	3 829	109 968	111 384
“ —All others	233 711	126 112	1 294 471	738 996
Export—All products	46 903	45 485	457 489	779 485
Total	629 553	293 557	3 935 518	3 483 463

Large orders from Chevrolet Motor and Fisher Body Corporation account for the increase in General Motors bookings. Orders for raincoat material account for increase in specialties business.

Prices and Competition. The general price list has thus far been maintained on the domestic automotive business, though competitive pressure is increasingly strong for reduction. Some reduction from list has been necessary on export business. In the raincoat field, prices have been advanced slightly.

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FAB-5

NEWBURGH BRANCH:Sales.

	NEWBURGH BILLINGS COMPARISON—DOLLARS			
	August 1926	July 1926	Jan-Aug. 1926	Jan-Aug. 1925
General Motors	\$118 599	\$ 78 743	\$ 631 132	\$ 786 463
Domestic—General	262 440	220 721	2 138 284	2 228 652
Tontine—Domestic	97 876	66 698	561 903	405 159
Export—All products	76 249	94 883	720 364	679 839
Total	\$555 164	\$461 045	\$4 051 683	\$4 100 113

Business Booked.

	NEWBURGH BOOKINGS COMPARISON—YARDS			
	August 1926	July 1926	Jan-Aug. 1926	Jan-Aug. 1925
General Motors	124 460	134 645	1 065 084	869 261
Domestic—General	361 903	377 329	3 887 789	4 025 917
Tontine—Domestic	181 223	137 907	1 141 404	915 027
Export—All products	71 052	73 327	701 797	768 971
	738 638	723 208	6 776 074	6 579 176

Prices and Competition. A number of smaller competitors continue to quote prices ranging from 10% to 15% below schedule. We are meeting these quotations only where it is necessary to do so to protect established trade, and in a few instances have succeeded in holding business without meeting such reductions.

Export. During August we booked 71 000 yards as compared with 73 000 yards during July. Export business during the early part of September has shown quite an increase, during which period we booked 99 000 yards of heavy qualities for shipment to the Ford Motor Company in Australia. We are figuring on inquiry from the Argentine Government for about 157 000 yards of sheeting to be used for identification

NOTE: "gmc-1055" appears in lower right of each page. "8", "11", "17", and "19" are stamped at bottom of successive respective pages of Excerpts.

3956

Copy to:

Dr. H. H. Hopkins )  
Mr. Matt Denning ) IN TURN

Wilmington 98, Delaware,  
July 9th, 1945.

CONFIDENTIAL

DR. ROY B. DAVIS  
FLINT LABORATORY

MR. G. E. CONDE  
PARLIN LABORATORY

MR. J. B. BULLITT JR.  
PHILADELPHIA LABORATORY

POLICY WITH GENERAL MOTORS  
ON DUCO versus DULUX

Attached is copy of letter of July 5th from Mr. Denning to Dr. Hopkins which states the future policy of the Department on this subject as endorsed by Mr. Kinsman.

Please be guided by this policy in the handling of your future technical relations with General Motors.

JOHN MARSHALL

JM:BL

Attachment.



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2

CC: MR. H. R. LOUNSBURY  
July 5, 1945

DR. H. H. HOPKINS:

POLICY WITH GENERAL MOTORS  
ON "DUCO" VERSUS "DULUX"

It is our understanding, following several discussions on the subject, that we are to keep General Motors fully posted at all times on all developments in automotive finishes, whether these represent improvements in the lacquer or the synthetic type finish. Regardless of our investment in lacquer producing capacity, we must let the question of the adoption of synthetic finishes by General Motors stand or fall on its own merits, without bias or prejudice on our part.

It is also part of our policy to see that not only the technicians of General Motors, but also the general management, are kept informed as to developments in the finishes field.

Mr. Williams is to be sure that the management of the General Motors Corporation know what would be involved as far as we are concerned, if they should suddenly switch all or a major part of their production to synthetic finishes. We should make every effort to see that we have from six months' to one year's advance notice of such a change.

In general, we have been guided by the above policies in the past. This memorandum is written to clarify these policies and make them a matter of record.

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MATT DENNING.

MD:CM

NOTE: "File Copy" is printed across first page. The number 537 underlined appears in the upper right hand corner and T M reversed are in the lower right hand corner of first page. Also on first page is stamped "Noted Jul 9 1945 H. E. E." On second page, in upper left-hand corner is written, "Mr. John Marshall For your information D". In upper right-hand corner is written "Endorsed by J. W. K. 7/6" under which are three illegible initials. Italics indicate handwriting.

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Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE  
EXECUTIVE OFFICES

October 7, 1921.

*Personal*

Mr. P. S. duPont, President,  
General Motors Corporation,  
Wilmington, Delaware.

Dear ~~Sir~~ *Pierre*

OUR FILE "GENERAL MOTORS"—FABRIKOID FOR GENERAL MOTORS—

We would like to present to the General Motors Company in the proper way the subject of entering into negotiations with us for the supplying of all of the artificial leather and rubber which they use, on some mutually advantageous basis.

1st—From the duPont-point of view we feel that we are today at a disadvantage rather than advantage owing to the connection between the two companies, for the reason that the other artificial leather companies, particularly the less reliable ones, believing that we will for policy reasons take all of the business anyway, quote perfectly ridiculous prices to the different branches of the General Motors Company, thus forcing us to accept the business at a loss.

This may or may not be a fact, but it is the fact in several different cases. For example, recently the O'Bannon Company, which is in the hands of receivers, named a price of 53¢ on a Buick order, as compared with our price of 67¢, if I remember the figures correctly, our price even being below cost. The Fabrikoid Sales Department accepted

the order for policy reasons, although it might have been better to let the O'Bannon Company take it. The Fabrikoid Sales Department's argument on this is that while the executive end of the General Motors Company would not in any way be influenced by our losing some orders, that if this continued the Plant Managers might be influenced against us, believing that we always bid higher than was in any way necessary or fair.

From another point of view, if an arrangement could be made, especially at this time, whereby the duPont

— 2 —

Company could secure all of the artificial leather and rubber business, we could operate our plant, I believe, on a fairly economical basis, thus getting considerably lower costs (which the General Motors Company would secure the advantage from) and we would not be compelled to operate at a considerable loss all the time.

Without being familiar with all the little details, what I am afraid happens is that three or four different artificial leather companies are getting small dabs of the General Motors business, all of them running at small capacities. It seems uneconomical, from the general duPont pocket-book point of view, not to be able to make some arrangements whereby we could run our artificial leather plants fairly full, and in the long run it would not cost the General Motors Company any more money, if as much, as if they kept us on a competitive basis when the competition, owing to the circumstances, is not altogether a fair one.

In discussing this question with Irene this morning (and you know he has not been in sympathy with the general cost plus contract with the General Motors) I put it to him in rather a different point of view than he had thought of it before, by comparing it with the general contracting business. Both from a point of view of a high class reliable con-

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tractor, and from the point of view of the client, I think it has always been accepted that considerable money is saved to both parties in the long run if work is done on this basis. In other words, if either you or I, doing a considerable amount of building over a period of years, had absolute faith in a certain contractor, a great deal of money and time could be saved if we simply ordered them to do the work each time and charge us on a charge plus basis.

I was told a few days ago that the argument that some of the General Motors Managers have put up against a cost plus contract for Fabrikoid, is that the duPont Company overhead was so high that they would not favor any such basis. Referring to my department only, from the study we have made during the past week and the re-arrangement that we have made or expect to make, a great many thousand dollars per month will be saved. Of course, we cannot guarantee this at the minute, but everything points that way.

Of course, I appreciate that you, personally, can take no steps in this direction, but I was anxious to learn whether you are personally opposed to such a policy. If you have time when you are in Wilmington this week, I would be glad to discuss it further with you and get your ideas.

Very truly yours,

*R R M C*

~~GENERAL MANAGER~~

~~CELLULOSE PRODUCTS DEPARTMENT~~

RRMC/R

NOTE: Italics indicate handwriting. The word "Personal" is written at top of first page. "Sir:" in salutation and the words under the signature on the second page are crossed out by hand. "gmc-795" is written at bottom of each page.

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EXCERPTS

May 15, 1922

To: EXECUTIVE COMMITTEE

FROM: CELLULOSE PRODUCTS DEPARTMENT

MONTHLY REPORT OF CELLULOSE PRODUCTS DEPARTMENT  
FOR APRIL, 1922

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May 15, 1922.

To—EXECUTIVE COMMITTEE,

FROM—CELLULOSE PRODUCTS DEPARTMENT.

MONTHLY REPORT OF CELLULOSE PRODUCTS DEPARTMENT  
FOR APRIL 1922

We are reporting herewith the results of the April operations of the Chemical Products (Parlin) Division and Fabrikoid Division.

The net profits for April for the Cellulose Products Department we estimate will run upward of \$140,000.—made up as follows:

Newburgh .....	\$67,000.
Fairfield .....	29,000.
Parlin .....	47,000.
	<hr/>
	\$ 143,000.

Our net profits for the first four months of 1922 have figured as follows:

<u>1922</u>	<u>Fabrikoid</u>	<u>Parlin</u>	<u>Total Cellulose P.D.</u>
January	\$10,922.	\$10,465.	\$21,387.
February	12,386.	25,102.	37,488.
March	70,744.	40,689.	111,433.
April	96,000.	47,000.	143,000.
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Four mos. total	\$ 190,052.	\$ 123,256.	\$ 313,308.

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In the Fabrikoid Division the bulk of our sales continued to go to the Motors industries. In April, 50.4% of our Fabrikoid billings were to General Motors, so that our future net profit in Fabrikoid is pretty closely tied in with the further developments in the automobile industry. At

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present we expect May to continue at about the same gait as April, and also to continue strong into June. Beginning with July, however, we expect to see a falling off.

In the Chemical Products Division the automobile industry again looms up big, but in gross sales only, not in net profit. 25% of our Chemical Products April gross sales were to Henry Ford (amounting to \$61,000.) covering shipments of Powder Dope. One million pounds (being 68% of our total Parlin chemical mixtures) is practically "no profit" business; the "net" to Parlin out of this business being the manufacturing overhead which it absorbs, to the extent of about \$5,000., and about the same sum toward Selling and Administrative Expense. However, our profitable enamel, thinner and lacquer business continued to hold up in April; the outlook is bright, and at Parlin we are addressing ourselves to the problem of corraling more of this sort of profitable and permanent business to gradually replace the Ford and Sanford Mill type of tonnage-no-profit sales.

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LEATHER SUBSTITUTE - GIMP AND WELT - RUBBER  
COATED FABRICS - COTTON FABRICS.

MEMORANDUM FOR GENERAL PURCHASING COMMITTEE  
—February 7, 1923.

Annual Purchases of Leather Substitute \$1,243,273.00; Gimp and Welt \$323,522.00; Rubber Coated Fabrics \$2,266,928.00, and Cotton Fabrics as such \$473,034.00, totaling \$4,306,721.00, represent 12,037,650 square yards, or 5,063,179 pounds of Cotton Fabrics, or 12,459 Bales of raw Cotton.

On today's market, cost of raw cotton alone would be \$1,744,260.00.

These figures warrant close touch with cotton growing and manufacturing industries and market.

It should be undertaken to work out with suppliers of Leather Substitute and Rubber Coated Fabrics a plan for purchasing cotton fabrics at most favorable time to cover our estimated minimum annual requirements or any part thereof authorized by forward commitment.

If cotton mills would not accept annual contracts from our suppliers, consideration might be given to purchase of raw cotton for resale to mills. At best the matter involves speculative features.

Requirements of Cotton Fabrics in Grey might reasonably be lumped with those of supplier of Leather Substitute, etc. and purchased direct from mills.



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Requirements of Cotton Fabrics, dyed, could be likewise purchased and converted by supplier at a fixed charge.

Large consumption of Leather Substitute and Rubber Coated Fabrics should enable us to secure from suppliers a definite price for each finished quality based upon a small percentage of profit.

Or, we might agree upon a fixed charge for each finished quality over and above the cost of Cotton Fabrics (assuming we have a voice in purchase of fabrics).

Leather Substitute purchased under General Contract could be supplied to Gimp Manufacturers for converting, on a schedule of fixed charges.

The duPont Company which now supplies all Car Divisions with nearly their entire requirements of Coated Fabrics, have ample facilities. They have excellent cotton mill connections, manufacture their dyestuffs, pigments, and some solvents. They have large stocks of nitro-cellulose in the form of smokeless powder obtained at low cost. Castor Oil, which with pigment, nitro-cellulose, and solvents, composes the coating solution, does not have a widely fluctuating market.

The problem of Rubber Coated and combined Fabrics is not widely different.

Large savings are indicated.

The Cotton Market is steadily advancing.

[STAMP] J L

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February 12, 1923.

TO: EXECUTIVE COMMITTEE  
(M. D. Fisher, Sect'y)

FROM: CELLULOSE PRODUCTS DEPT.

RELATIONS WITH THE GENERAL MOTORS CORPORATIONS

The writer spent last week making a personal investigation of the present status of our relations with the General Motors Corporation with respect to Duco Finish, Fabrikoid, and auto top materials, and inasmuch as this whole subject is of such vital importance to the Company the Executive Committee will probably be interested in receiving a brief resume of the conditions found and conclusions reached.

DUCO FINISH:

It will be remembered that our first work on high solids pyroxylin enamels for automobile finishing was based upon the incorporation of pigments into Viscolac, which was our first high solids lacquer. All of the early work, extending from April to August 1922, was done with this material. The chief difficulties with pigmented Viscolac were unsatisfactory adhesion to metal and insufficient covering power. In August 1922 we had succeeded in materially increasing its adhesive properties and at the same time improving its covering power, by increasing its pigment content.

This was brought about by a study of the grinding of pigments and the method of incorporation of the pigments in the pyroxylin materials. After a few months experience, however, it was found that we had gone a little too far in increasing the pigment content of these enamels, the effect of too high a percentage of pigments being brittleness in the finished film. In recent months this difficulty has been overcome by a reduction in pigment content coincident with increase in softeners, so that the material being made at the present time represents not only the most recent developments in our knowledge of the effect of various components upon the physical characteristics and durability of the material, but it represents we believe a finished product in so far as any further radical changes in composition are likely to be found necessary.

The Dayton Laboratories and the various units of the General Motors Corporation have shown a keen interest in this material thruout the entire period of its development, and while normally a problem of this kind would be worked out by the Dayton Laboratories before work was undertaken by any of the individual units, the interest of the units themselves in this material has been such as to lead each of them to do independent experimental work on its method of application. This of course has resulted in the accumulation of an amount of knowledge as to technique of application which it would otherwise have been very difficult for us to obtain. Below is given a brief synopsis of the work undertaken by each of the units, together with its present attitude toward the use of this material:-

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1—Cadillac:

The Cadillac organization has displayed very keen interest in this material for the reason that the method of

finishing used by the Cadillac plant is the most expensive and time consuming used by any of the units of General Motors, involving 14 separate coats of under-coatings, color varnishes, and finishing varnish, and requiring twenty-eight days to finish a body. The Cadillac organization have satisfied themselves on the following points:-

a—Duco Finish cannot be used satisfactorily without the usual under-coatings, because (1) A built-up rich looking finish cannot be obtained without undercoatings, (2) The metal cannot be made absolutely clean by sand blasting in factory practice to insure perfect adhesion, and (3) Even the 1 and 2 were possible Duco Finish built up from the bare metal without the use of undercoatings gives what they call a "tin pan" appearance, which is unsatisfactory on a high priced car.

b—To secure durability the undercoatings must be thoroughly baked to a hard surface, air drying giving undependable results.

c—The Cadillac "Brewster Green" is the most difficult color to match, and thus far we have been unable to secure an exact match without mixture of incompatible pigments. The Flint Varnish and Color Works advise us that this color is the most difficult one in the automotive industry to match, and are giving us assistance in this particular.

d—On account of the policy of extreme conservatism that has always been followed by the Cadillac Company they advise that they will not adopt Duco Finish until they have had at least ten months experience with care under observation in regular service. At the present time they are entirely convinced as to the durability of the material and its superiority to color varnish, and as soon as we are



able to make an exact duplication of their standard color they will finish a number of cars and put them in service in the city of Detroit, where they can be kept under observation.

## 2—Buick:

Considerable work has been done at the Buick factory and we have succeeded in duplicating the Buick standard blue and red bodies. This company is also convinced that our finish must be used over baked under-coatings, and while they are satisfied that it has greater durability than color varnish, they have the most efficient finishing process of any of the motor units and are loath to introduce a material which will increase their cost of finishing and upset their present efficient finishing schedule until they have determined—(1) The increase in cost which will be involved (which will be perhaps approximately \$1.00 per car), and (2) The relative advantage in durability which Duco Finish possesses over color varnish.

They are at the present time finishing five cars in blue and five in maroon to be put into regular service under observa-

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tion, and the writer saw these cars in process of finishing at the Buick plant. On the question of length of time required before they will feel justified in reaching a decision, we were advised that six months should be considered minimum.

## 3—Oakland:

Considerable interest in our finishes has been shown by the Oakland organization, primarily because the foreman

of the finishing department is an unusually intelligent, progressive and competent man. As a result of his individual efforts a spraying technique has been developed at the Oakland factory which is superior to that heretofore used by any of the Units or by the men in our own organization. The importance of this lies in the fact that they are able to spray a coat of Duco Finish which after drying has a smoother surface and consequently requires less hand rubbing than we have heretofore considered possible. One of the important items in cost of body finishing is the labor involved in rubbing the finishes by hand to a smooth surface before the final coat of finishing varnish is applied. Due to the fact that our material is very much tougher than color varnish the labor involved in hand rubbing it to a smooth surface is considerably greater than that required for rubbing their present finishes. At Oakland we were advised that Duco Finish, if properly applied, can be hand rubbed at very little increased cost for rubbing.

The development of this spraying technique is important to us not only in simplifying the application of our material in automobile factories, but will also be useful in the de-

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velopment/a technique for refinishers, where up to the present time we have not been successful in spraying to a smooth finish. For example, the refinishing which has been done by the Auto Refinishing Company, Wilmington, who have done the best work thus far in refinishing, has a rough orange peel effect, which is unsatisfactory to some users.

The regular method of finishing at the Oakland factory consists in applying color varnishes over air dried, as contrasted with baked under-coatings. They have found that in the use of our material it is necessary to air dry their

under-coatings for a longer time than is the case with their regular finishes, and have installed one oven to be used for baking undercoatings in future applications of our material. As in the case of Cadillac and Buick, they are convinced that our material should be used only in substitution for color varnish, and should be applied over baked undercoatings. We saw a number of finished jobs at Oakland which are beautiful in appearance, and which as a matter of fact were superior in this respect to the very expensive and time consuming method used by Cadillac. Here again, however, as in the case of the other two industries, they are unwilling to come to a decision regarding the use of our material until they have had extended experience with it in service, for the reason that the increased cost both of the material itself and of labor in applying it must be compensated for by substantially greater durability.

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#### 4—Chevrolet:

At the outset it should be stated that it is our opinion that Duco Finish will never seriously compete with a black baked enamel finish for the reason that this is the cheapest method of finishing automobiles, and produces the most durable finish. The question which the Chevrolet Company, and other manufacturers of cheap cars, face at the present time, is whether or not to adopt an all steel body which will permit the use of a black high baked enamel, as is done by the Dodge Company, and secure a finish which is so durable that it will last as long as the car. Chevrolet uses a black baking enamel, which is baked at the maximum temperature which will not injure the wood in the body, but in being forced to use a lower temperature in baking it is not secur-

ing as great durability as does the Dodge, which has eliminated all wood from the body.

Some time ago the Chevrolet Company finished a few of our cars in Duco over bare metal and without the use of finishing varnish. These were placed in the hands of dealers, and in every case they received the report that the cars were not saleable on account of the dullness of the finish. The dealers themselves converted these cars to so-called sport models by having them refinished in colors.

The Chevrolet Company has an export business which at the present time amounts to about thirty cars per day. These cars are sold at a higher price and are finished in colors, principally grey, and it is probable that if the other units adopt our finishes Chevrolet will use this material on their export cars.

#### 5—Oldsmobile:

The Oldsmobile Company has done a considerable amount of work in the application of Duco Finish, and unlike the other Units has confined its work to the application of Duco Finish over sand blasted metal, without the use of under-coatings. They have in all finished about fifty cars, most of which were finished and put in service within the last few months. Owing to the new program for this company, which involves the manufacture of a much cheaper car, their feeling has been that the expense of the usual method of finishing, involving under-coatings, color varnish, and finishing varnish, would be prohibitive, and that unless our finishes can be applied over bare metal, with the minimum of expense for rubbing, they would be forced to fall back upon the cheap baked enamel finish. The method of application used by Olds has consisted of



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a—A priming coat of Duco Finish

b—A coat of glaze applied to rough places with a knife

c—Two or three coats of Duco Finish

In some cases they have used finishing varnish to secure high lustre, as the final coat, but in others have put their cars out with the dull finish produced by Duco itself. They have not yet succeeded in obtaining a satisfactory glazing paste to be used with this method, nor have we succeeded in finding one on the market or developing one ourselves. This method has the disadvantage of requiring a scrupulously clean surface before application of our material, which condition is very difficult to meet in ordinary shop practice.

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On the whole we think that it is extremely unlikely that the Oldsmobile Company under its new manufacturing program will be able to use our finish on account of cost, and that they will finally decide to turn out the bulk of their production in black models finished with cheap baking enamel.

#### 6—Dayton Laboratories:

The Dayton Laboratories have done a considerable amount of experimental work with our finishes and have done it in a thoroughgoing manner. Most of the results which they have thus far obtained have been based upon the use of (a) Viscolac and (b) Duco enamels containing too high a percentage of pigment, so that we are now unfortunately in the position of having developed a material

which is superior to either of those but which has not been in their hands long enough to have had the opportunity to undergo the long time service tests under exposure to weather, on which tests they base their conclusions. They have, however, developed a lot of useful information in connection with their study of this whole proposition. This information may be summarized briefly as follows:-

a—There is very little likelihood that a method of finishing based exclusively on the use of our finishes will be developed for use in finishing new automobiles. They believe that the field for our finishes is in substitution for color varnishes, and they have already convinced themselves that our type of finish is vastly superior in durability to color varnish. To solve the general problem of durable finishes in colors, which of course is their main interest, their goal is to secure a colored finish which will be as durable as the high baked enamel finish used on all-metal bodies. In other words, they are seeking a finish in colors which will last practically as long as the car itself, and while this may be an ideal which is not susceptible of attainment they entertain high hope at the present time that it will eventually be found that our present finish will meet this requirement.

b—They have satisfied themselves by numerous tests, as have the other General Motors Units, that our material must be applied over baked under-coatings rather than over air dried surfaces, as has been done at the Oakland factory. Their explanation of this is that the solvents in our materials act very much in the nature of paint removers when applied to drying oils, unless the drying oils have been completely oxidized. They feel that altho we have thus far

had excellent results with the Oakland method of applying our material over air dried under-coatings, sufficient time has not elapsed to permit us to draw conclusions as to durability. Experimental results seem to amply justify this conclusion, and, as mentioned in an earlier part of this report, the Oakland factory is installing one oven to permit them to bake their under-coatings before application of our material.

c—The Dayton Laboratories have demonstrated conclusively that finishing varnish has a very much longer life when applied to our material than it has when applied to color varnish, and the reasons for its behavior in this respect are simple. Color varnish absorbs the oil from finishing varnish, giving eventually a thick layer consisting of two or three coats of color varnish plus a coat

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of finishing varnish, all having the same consistency and resulting in one thick layer of varnish which dries rapidly at the surface. When finishing varnish, on the other hand, is applied to Duco Finish it is laid upon a material which has a hard, impervious surface, and a permanent film, and the finishing varnish in this case lasts as long as it can withstand the effects of sunlight and weather, without action by the materials which underlie it.

d—The three main classes of materials used in finishing automobiles, i.e. under-coatings, color varnishes, and finishing varnish, produce a finish which is as durable as the weakest link in the chain, viz., color varnish. By the substitution of Duco Finish for the color varnish the weak link in the chain becomes finishing varnish. Future work at the

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Dayton Laboratories, in addition to further extensive tests on the durability of Duco Finish, will be directed toward developing a finishing varnish which will have a longer life than any at present on the market, or developing some other method of giving our material a sufficiently high lustre to meet the requirements of the motor car manufacturers. In this connection it may be said that all of the units of General Motors, together with Dayton Laboratories, are convinced that new motor cars cannot be sold unless they are finished with a high lustre. The general opinion seems to be that a dull or satin finish gives a new automobile a second-hand appearance, and while dull finish has been talked about for many years in the automobile industry, and has been tried a number of times by different manufacturers, it has always been given up as the result of sales resistance. At the present time there are three well known makes of automobiles which are offering to the public models finished with a flat, lustreless appearance, viz., Reo, Jordan, and Davis. The materials used are ordinary paint finishes, but it is the opinion of the General Motors people with whom I talked that these companies will be unsuccessful in interesting the public in this type of finish.

In view of the long time which it will be necessary for us to wait until the Dayton Laboratories and the various units of the General Motors Corporation make up their minds to use our material in production, and in view of the fact that other motor car manufacturers are anxious to have us start experimental work with them, it is my opinion that we should begin an aggressive campaign with other leading motor car manufacturers to test our materials. It is altogether likely that the important motor car manufacturers will take the same attitude toward our finish as does the



General Motors Corporation, that is, they will desire to place cars finished with our material in service under observation for a considerable length of time before adopting it.

We have felt under considerable obligation to General Motors in the development of this material on account of the assistance which they have rendered us, but it seems to us that a large amount of very valuable time will be lost if we refrain from working with other motor car manufacturers for a period of from six months to one year, pending decision by the units of General Motors as to whether or not they will adopt our material. In any event it will be impracticable for us to give General Motors the exclusive use of our material for the reason that it is used in many other industries besides the motor car industry, and our sales are rapidly increasing in some of these other lines. Possible patent protection is very uncertain, and would be only partial if all of our patent applications

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are allowed and will withstand litigation. While some correspondence has passed between the Presidents of the General Motors Corporation and E. I. duPont de Nemours & Company on this subject, in which Mr. Irénée duPont took the very definite position that we could not agree to extend to the General Motors Corporation exclusive rights in the use of this material on automobiles, I would like to be relieved of any obligations to the General Motors Corporation in connection with the use of this material, and thus be free to negotiate with other automobile manufacturers for its use.

#### FABRIKOID & AUTO TOP MATERIALS:

All of the General Motors units expressed satisfaction with the quality of the leather substitute and rubber coated

fabrics which they have been receiving from us during the past year, and are more than pleased with the extraordinarily good service which we have given them. This service has not only taken the form of quick deliveries on short notice, but they have in addition received valuable assistance in operation of their trim shops from Mr. H. J. Haon, who has spent a considerable amount of time during the past year on this work. The Units are, however, facing a dilemma at the present time, which is brought about by a resolution of the General Motors Corporation Executive Committee instructing each Unit to develop at least two sources of supply for all essential materials which they use. At the present time all leather substitute and top material is furnished by the Fabrikoid Division, and while several of our competitors are large enough to constitute a satisfactory source of supply the fact that under present conditions none of our competitors are called upon to furnish any material constitutes a violation of this resolution. As I have advised the Executive Committee in the past, the prices on which our motors contracts are based are determined by quotations which the individual motors units obtain from our competitors, and while we are satisfied that none of our competitors would render the General Motors Corporation the same high standard of service which they have been receiving from us it must be admitted that their account is such a large and valuable one that any manufacturer would be glad to get it on a very narrow margin of profit.

A meeting was arranged while I was in Detroit to enable me to confer with Messrs. Main, Director of Purchases, Lynah, Assistant Director of Purchases, J. L. Pratt, who is on the purchasing committee, O'Keefe, Purchasing Agent for Chevrolet, and Halgrave, Purchasing Agent for Cadillac.

lac. At this meeting I discussed the whole situation very freely with these men, pointing out the very large risk which we were assuming in covering their grey goods requirements for six months and in turn selling our finished material to them on a requirements basis, without protection against a sudden slump in the motor industry, and they advised me that every supplier with whom they do business assumes this risk, and they can see no reason why we should not assume it so long as other manufacturers in our line of business are anxious to get their business on similar terms. During this meeting the question of an additional source of supply was discussed very freely and the conclusion was reached that the General Motors units should purchase 20% of their leather substitute and top materials from one of our competitors, leaving us 80% of their consumption at prices which would be determined by competition.

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The question of centralization of purchases of our material is under active consideration by the Purchasing Committee at the present time, and if this centralization is effected it will make our problem somewhat simpler, as at the present time we make separate contracts with each of the Units and these contracts are more or less influenced by the particular kind of competition encountered as well as the particular viewpoint of the Unit concerned. They have now calculated their requirements for the last half of this year and the central purchasing department has been instructed by the Purchasing Committee to secure bids on this material from the various reputable manufacturers in our line. I advised them that in my opinion this was not a good time to contract for their July to December requirements, for the reason that the prices which they will have to pay for these

deliveries will depend very largely on the price of cotton at the time, and this in turn cannot be forecasted until the Department of Agriculture's figures on acreage planted become public. I offered to cooperate with them in every way to enable them to decide for themselves the proper time at which to make these contracts, giving them the benefit of all of the information which we have as to the probable course of the cotton market, and I am confident that even though they decide to place 20% of their business with our competitors there will be no question about our securing the remaining 80%. On the other hand, I am convinced that we will always have to take this business on a very narrow margin and may have to assume risks which would seem to be disproportionate to the profit which can be made out of this business. However, we need the capacity which the General Motors business enables us to get, and our position will remain weak until we have succeeded in getting a greater diversification of our sales, which will involve less dependence upon the motor industry.

As I have advised the Executive Committee on several occasions, this whole problem is under intensive study, as our dependence upon one industry constitutes the gravest danger to the permanent success of this business.

#### RELATIONS WITH FLINT VARNISH AND COLOR WORKS

I advised the Executive Committee several weeks ago regarding the outcome of a discussion with Messrs. Grubb and Sohlinger on the question of cooperation between the Flint Varnish and Color Works and the Cellulose Products Department, and the further development and marketing of pyroxylin finishes. Since that conference Mr. Merkle of the Flint Company made a visit to Parlin, when the whole matter was gone into very thoroughly.



During my visit to the General Motors plants I arranged a conference at the Flint Varnish and Color Works between Messrs. Sohlinger, Egerly, and Merkle, and Messrs. Flaherty, Williams, Cavanaugh, and myself.

As a result of these conferences we believe that we will receive considerable assistance from the Flint Company in the use of pigments, and they in turn will be able to improve the quality of

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their glazes and under-coatings for use with our material. The whole problem has now reached a stage where active cooperation is essential and we believe that the way has been paved on both sides to bring this about. It is very likely that the ultimate result of this cooperation will be beneficial to both branches, for the reason that our materials will give the Flint Company an opportunity to sell undercoatings and finishing varnish to accounts which they otherwise would not secure, and their present entrée to automobile concerns which now use their material will facilitate the introduction of our materials.

[STAMP] W. P. ALLEN  
GENERAL MANAGER.

WPA/IRB

NOTE: The line through the words on the first page and the period immediately before such words are by hand, and the line in the margin of page 7 is by hand. "Executive Committee Secy's No. 8930" is stamped and "T" is written at top of first page. "Return to Executive Committee Room 9069" is stamped on pages 1 and 9. "gmc-920a" is written at bottom of each page.

3982

E. I. DU PONT DE NEMOURS & COMPANY  
(Incorporated)  
WILMINGTON, DELAWARE

VICE-PRESIDENT

July 18th, 1923.

TO: P. S. DU PONT

FROM: WM. COYNE

CHEVROLET TOP BUSINESS

At our Directors of Sales meeting July 17th, in Wilmington, statement was made that for the last six months of 1923 we lost 25% of the Chevrolet top business, our price and quality being admittedly as good as our competitors.

Further statement was made that Mr. Knudsen had gotten your permission to give 25% to our competitors, the O'Bannon Corporation, which is in the hands of a receiver.

I wondered if you would care to tell me just what the reasons were for this attitude on the part of the Chevrolet people, so that we may, if possible, "put our house in order" to the extent that next time we may get 100% of the Chevrolet business.

/s/ WM. COYNE  
VICE PRESIDENT

WC/emm

3983

July 19th, 1923.

Mr. Wm. Coyne, Vice-President,  
Building.

Dear Sir:

Replying to your letter of July 18th:

I have always thought that it was a very foolish business plan to divide orders for raw materials for the satisfaction of saying "we have two sources of supply", even though one source of materials might be more satisfactory in many ways. I think the duPont Company indulges in this foolish practice, as well as General Motors. At any rate I do not think it advisable to interfere in any case unless the Executive Committee of the company outlines a policy advocating one source of supply generally where such course seems advisable.

As to the policy of General Motors, I cannot refuse permission to Mr. Knudsen if he wishes to divide his orders for Fabrikoid. I do not approve of the policy or of this particular act.

Very truly yours,

17

Chairman of the Board.

---

NOTE. File Copy stamped across face of letter. Initials "FAM" in right hand margin at middle of page.

3984

July 27th, 1923.

Mr. William S. Knudsen, Vice-President,  
Chevrolet Motor Car Company,  
Detroit, Michigan.

My dear Mr. Knudsen:

I have learned recently that Chevrolet is dividing its orders for coated fabrics in order to have two sources of supply. While you have authority to make these arrangements, I do not wish to appear as approving. I am a firm believer that one good source of supply, properly maintained, is more reliable than two sources. I particularly condemn switching large orders from one source to another unless for very good reason. The temporary advantage gained through a contract at a lower price does not compensate having to support two plants where one would suffice. Doubtless you have given personal consideration to the case in question. I have no fault to find with the principle which would apply as well to other manufacture as of the duPont Company.

Very truly yours,

---

Note. "RWE" and "FAM" written in right margin.  
"P. S. du Pont" stamped across document.



EXCERPT FROM

Government's Exhibit No. 411

3985

AUGUST 18, 1922 CELLULOSE PRODUCTS DEPARTMENT  
FINAL REPORT FOR JUNE AND PRELIMINARY REPORT  
FOR JULY 1922 TO EXECUTIVE COMMITTEE OF DU PONT  
COMPANY (GMC-1052)

...

COMPETITION:

Rubber

Very low prices are still being quoted by our competitors. On Ford rubber our minimum price is around 52¢. During the month quotations of 40¢ by Athol, 42-1/2¢ by O'Bannon, and as low as 36-1/2¢ by Scherer came to our attention. Our quotation of 80¢ on 40 oz. double texture was beaten by Duratex at 70¢. Chase price of 61¢ on 38 oz. 1.43 drill for American Motor Body Corporation got the business over our price of 64¢ on 1.65 drill.

In the East a slight tendency toward stiffening of prices is noted, but the Middle Western concerns still maintain keen price competition; getting the most of the available business thru their advantage in the way of freight rates.

We find that 25% of Chevrolet's rubber business for July, August and September (some 96,000 yards) was placed with O'Bannon at 40¢ for July and 42-1/2¢ for the balance. Our price since April 1st has been 55.6¢.

During the month advices came to us that both Hodgman Rubber and F. S. Carr are in the hands of receivers.

Artificial Leather

The leather substitute situation is about the same as last month. O'Bannon quotes 60¢ to Baltimore trade against our minimum price of 65¢ for 4000 quality. Western Shade and Textileather are selling qualities equivalent to our 1100 grade at 24¢ net; Duratex and Keratol are quoting 23¢ while our minimum is 26¢; Athol on 700 quotes 30.55¢ against our 33¢ price.

...

PRICES CHANGES MADE AND CONTEMPLATED:

On August 1st we advanced the price on Heavy qualities of Fabrikoid approximately 3% and issued a new price list showing this change. we will not get the full benefit of this at once, as a considerable amount of heavy goods is sold to General Motors and no change has been made in our price to General Motors units."

1701

[fol. 1702] GOVERNMENT'S EXHIBIT No. 412

**GENERAL MOTORS CORPORATION**  
General Purchasing Committee  
Detroit, Michigan

September 27, 1923.

Subject: Minutes: Ninth Meeting, Detroit.  
Attention of: Purchasing Agents, all Divisions.

2. Miscellaneous Matters:

(a) Matter of Tire Contracts.

Secretary reported that on September 24 letter was sent to the Car & Truck Divisions requesting estimate of requirements for 1924, based on NORMAL consumption and asking for expression of preferences in percentages for the following sources: Goodyear, Goodrich, United States, Firestone, Ajax and Kelly Springfield.

[fol. 1703] (c) Leather Substitute—Rubber Coated Fabrics.

It was brought out that the DuPont Company has enjoyed the larger portion of General Motors requirements of these items. That on account of constantly increasing consumption, sound judgment demands the maintenance of more than one source of supply. That the DuPont Company had been afforded the opportunity of meeting competitive prices and that competitors now believe that no matter what price they put in they would receive no business.

It was agreed that on an equal competitive basis at least 25% of the business should be placed with sources other than the DuPont Company. That the Dupont Company be notified that they should make their best price in their initial offer and not count upon having an opportunity to meet competitive prices, and that on the basis of competitive prices the Divisions were free to place their business to the best advantage. Inasmuch as Divisions have no facilities for making complete chemical and physical tests of these items the Factory Section was instructed to immediately

install apparatus and equipment. Secretary advised that suppliers of these items would afford representative from the Factory Section every possible facility in developing the proper methods and securing equipment necessary for making such tests.

Secretary was instructed to write Mr. C. L. Petze, Division Manager of DuPont Company relative to decision of the Committee and to send copies to the Purchasing Agents of interested Divisions.

[fol: 1704] GOVERNMENT'S EXHIBIT No. 413

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Wilmington, Delaware

October 6, 1923.

CELLULOSE PRODUCTS DEPARTMENT  
CONFIDENTIAL

Copy to: Mr. Irene duPont.  
Newburgh C. L. Petze  
Parlin J. W. Elms

Mr. Alfred P. Sloan, Pres.,  
General Motors Corporation,  
General Motors Bldg.,  
57th & Broadway,  
New York, N. Y.

Dear Mr. Sloan:

I wish to confirm my conversation with you of yesterday regarding Duco finish and our present relations with the individual General Motors units in connection with the sale to them of fabrikoid and rubber-coated fabrics.

[fol. 1705] 4. Fabrikoid & Rubber-Coated Fabrics:

You advised that at a recent meeting of the G. M. Purchasing Committee, of which you are Chairman, a resolution had been adopted which in substance outlines a policy of purchasing not more than 75% of your requirements of these materials from the duPont Company so as to enable the G. M. units to obtain bona fide prices from our competitors by actual purchases. I sug-

gested to you the desirability from the standpoint of advantage to the G. M. Corporation over a long period of making contracts with the duPont Company covering your entire requirements of these materials and based upon raw material prices plus a definite conversion charge. While it is true that experience generally with long term contracts on a cost plus basis has shown such contracts to be unsatisfactory in many respects, these particular materials lend themselves to such treatment by reason of the fact that a very large percentage of the cost is in raw materials and

—3—

the factory conversion cost is relatively small. For this reason it would be comparatively easy to arrive at a basis for price determination that would be fair to both sides and which would in the long run be advantageous to the buyer for the reason that it would permit a degree of cooperation in the purchase of raw materials which is not possible under the present competitive conditions. In other words, the opportunities for saving in these purchases lie very largely in our ability to purchase cotton fabrics at the right time and from the right sources of supply, based upon expert knowledge of the cotton and fabrics markets. We are very well fortified with such knowledge both inside our organization and thru our contact with outside experts, but under the present competitive conditions this expert knowledge is not used to the best advantage for the reason that we quote the individual units only when they decide to ask for offerings and we cannot afford to cover our fabric requirements in the [fol. 1707] absence of specific commitments from the various units. You suggested that I discuss this with the individual units and I advised you that I expected to be in Detroit within the next week or ten days, at which time I will take the matter up in detail with Messrs. Main, Lynah and the purchasing agents of the individual units.

The above, I think, covers substantially the subject matter of our discussion.

Yours very truly,

[Stamp] W. P. ALLEN,  
General Manager.

WPA:AR



3989

COPY

October 16, 1923

Mr. Wm. P. Allen, Gen. Mgr.  
Cellulose Products Department,  
E. I. duPont deNemours & Co.,  
Wilmington, Delaware.

RE: FABRIKOID & RUBBER-COATED FABRICS

My dear Mr. Allen:

Replying to that part of your letter of October 6th with reference to a different type of arrangement between you and ourselves in connection with the above products, would state that I am fundamentally against anything like a cost plus contract and although I recognize that the conditions in this case make it perhaps less objectionable than generally is the case, such a contract is bad enough in ordinary cases, but in our type of organization where we have a central viewpoint and a divisional viewpoint, it makes it most difficult and no matter how constructive the plan may be if competition comes in and for any reason, legitimate or otherwise, can make a lower price it produces very bad psychology and one difficult to overcome.

However, irrespective of all this as a matter of fact it is something for our General Purchasing Committee to decide and I am therefore sending copy of your viewpoint

17-2

3990

to our Secretary and will ask him to bring it up at the next meeting.

Very truly yours,

A.P.S. Jr./K

c/c Mr. P.S. duPont  
Irene duPont  
James Lynah

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NOTE: A check mark appears above "6th" in first line of body of letter and "11/1" is written at bottom of page.

FORM 10-400



E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE.

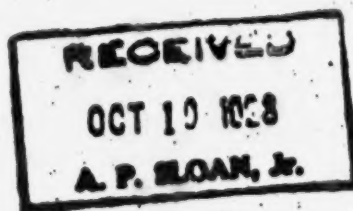
CELLULOSE PRODUCTS DEPARTMENT

3991

October 18, 1923

Mr. Alfred P. Sloan, Jr. President,  
General Motors Corporation,  
224 W. 57th Street,  
New York City, N. Y.

My dear Mr. Sloan:

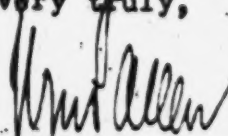


FABRIKOID & RUBBER-COATED FABRICS:

Replying to your letter of October 16th, on the above subject, I quite appreciate your position and that of the individual units in this matter, but think that the whole subject presents opportunities for an improvement in the relationship of the two companies and that some scheme of genuine cooperation might be worked out whereby each company would benefit. I realize, however, that it is entirely up to us to take the initiative in a matter of this kind and I shall discuss it with the Purchasing Agents of the individual units before attempting to formulate a definite plan.

With kind regards, I am

Yours very truly,

  
GENERAL MANAGER.

NOTE: Check marks at lower right are inserted after "A.P.S." and "A.T.B." respectively, in a routing stamp bearing the initials "A.P.S.", "J.L.P.", "P.F.", "W.L.", "A.T.B." and "W.F.A."

WPA.D

1710

Government's Exhibit No. 417

3992

EXCERPTS—

June 9, 1921

To: EXECUTIVE COMMITTEE  
(M.D.Fisher, Sec'y.)

FROM: A. FELIX DU PONT, VICE PRESIDENT

MONTHLY REPORT OF CELLULOSE PRODUCTS  
MANUFACTURING DEPARTMENT FOR  
APRIL—1921:

May 31, 1921

April Report

To: A. F. Porter, Director—

ALL PLANTS OF FABRIKOID DIVISION

Eliminated

4 2034

4 2035

4 2036

GMC-1050



May 31, 1921.

APRIL REPORT

To:—A. F. PORTER, DIRECTOR—

ALL PLANTS OF FABRIKOID DIVISION

April gave us the most encouragement we have had for months. This was chiefly due to Ford Motor Company orders, although exclusive of these there would have been some improvement over March conditions, March having in turn shown an appreciable improvement over February.

The advantage of operating the plants rather than shutting down, assuming a continuation unchanged of the forecasted extra-plant charges, is shown as follows:

	<u>Monthly Loss Operating at April Rate</u>	<u>Monthly Loss Complete Plant Shutdown</u>
Newburgh	\$1,400	\$69,000
Fairfield	\$97,000 (Gain)	\$23,000
Parlin	\$75,000	\$120,000

At date of writing (May 31st) it may be noted that while the incomplete figures thus far available for May show a small decrease from the April total plant productions at Newburgh and Parlin, and a material decrease at Fairfield, nevertheless if the Ford orders be disregarded May's production would be higher than that of April, in general, and therefore continues the upward trend from the lowest month (February). May orders, largely received in the latter part of the month, show a greater increase over April, excluding Ford, than does production.

Stocks for this Division taken as a unit were reduced in April by \$798,408, or 17.7%

While this report nominally covers April, the importance of our efforts along plant efficiency lines is considered sufficiently great to warrant a continuation of including in each monthly report the latest data thereupon available. During the present abnormal condition as to earnings this procedure will be followed unless objection is made.

Since the fall of 1920 the personnel of the Wilmington Main Office, Fabrikoid Division, Production Department, has shrunk by 50%.

—2—

#### FABRIKOID PLANTS

Construction appropriations authorized:—	
Newburgh—Major Construction—	0
—Minor Construction*—	\$2,100.00
Fairfield. —Major Construction—	0
—Minor Construction*—	0
<hr/>	
Amount authorized during April—	\$2,100.00
Amount previously authorized this year—	\$4,813.34
<hr/>	
Amount authorized to date this year—	\$6,913.34

\* Because Accounting Department records from which these figures are compiled are never available at the time of writing the report, Minors taken up on the Accounting Department books during the previous month are shown.

For the first time in many months net receipts for the Fabrikoid Industry (Newburgh and Fairfield grouped together) show in black. Although there is a special reason

3995

for this (Ford orders) the condition is nevertheless very welcome. April Fabrikoid profits from sales of both finished product and dyed goods totaled \$168,079; deducting the write-down upon grey goods received in April upon contracts made a year ago reduce this figure to the month's net of \$130,775.

In addition to grey goods consumed in manufacture, substantial reductions in fabric investments took place. The Ford Company purchased large yardages of grey goods, which we dyed before shipping. Part of the dyed goods shipped to Ford in April was purchased from us by Ford in July 1920. The price was so far above current prices that the average for the entire month's shipments of grey and dyed fabrics, totaling 1,636,312 yards, shows in black to the extent of \$72,325. Also, large consignments of incoming stocks purchased more than a year ago were found so defective as to prevent acceptance, and it is understood that the Purchasing Department was able to prevent replacement of these defectives, although the original purchase price was far above the present market. Considerable sales of obsolete materials were also made.

The Promotion Bureau, installed February 1st, is producing results beyond our expectations. Its first product, Fabrikoid window shade material (nearly completed before the formal installation of the Bureau but resulting from procedures similar to those of the Bureau) is now well established, with orders coming in at the rate of one-quarter million yards per year. A series of Fabrikoid mine products, nearly ready for the market, appear to have possibilities running into the millions of yards annually, in a field which has formerly not been touched by leather substitutes. These mine products comprise rubber tubing for supplying fresh

air ("Vent Tubing"), rubber curtains for preventing the spread of fire ("Brattice" sheeting), and pyroxylin coated coverings for washing tables ("Minefab"). Not since the days when Fabrikoid for automobile upholstery was being developed has the outlook for expansion of our product into new lines with large yardage possibilities been so bright.

—3—

### NEWBURGH

Calculating in the usual way upon the basis of finished product only, Newburgh ran at 14% capacity, compared with 15% for March, 13% for February, and 7% for January. However, while the Ford Company took none of Newburgh's finished product, Newburgh profited thru dyeing of Fairfield's Ford goods and dyeing of grey goods purchased by Ford, to such an extent as to raise the April total plant activity by 50% beyond the figures given above, when this extra dyeing is reduced to stad values.

The following figures show pay and salary roll charges per unit of product compared for different dates:—

	Average Weekly Stads Produced	Pit Payroll Cost per Stad	Pit. Salary Roll Cost per Stad	Total Pit. Pay & Sal. Roll Cost per Stad
January 1920	235 356	\$.0737	\$.019	\$.0927
July 1920	134 174	.1011	.033	.1341
4 Wks. ending Feb. 26, 1921	44 000	.148	.034	.182
4 " " Mar. 26, 1921	56 000	.124	.029	.153
5 " " Apr. 30, 1921	74 060	.0952	.021	.1164
3 " " May 21, 1921	41 660	.0992	.022	.1212

May's efficiency showing to date is not so satisfactory as April's. April was favored by an unusually large proportion of the stads produced being of the bulk rather than the specialty type, as well as the total stads being swelled by the Ford dyeing above referred to. However, further economies have been made, and others are in contemplation.



FAIRFIELD

Operated at 49% capacity, contrasted with 8% for March, 3% for February and 11% for January.

The outstanding feature for Fairfield is the emphatic swing of its profit statement over into black. Appreciable orders for the general trade, including General Motors, were received, but of course the belated release of Ford 1920 orders was the one important reason. In considering Fairfield's April book earnings of \$93,000 it should be noted that these

—4—

were calculated from the present written-down values for stocks. The original Ford Fairfield orders were taken in 1920 at a very narrow margin of profit, as calculated from actual cost. All stocks in connection therewith, in either the finished, semi-finished, or essential material forms, being on hand December 31, 1920, were written down on our books and April profits calculated from those written-down figures. As a partial off-set to April's profits there should be mentioned the April transfer of 130,000 yards from firsts to seconds. The charges have not yet been figured, but will probably total \$40,000 and appear against some of the summer months. These were goods manufactured in 1920 upon orders in hand but with shipments suspended by customers. The deterioration of rubber products upon storage is well known, but the yardage to be transferred to seconds is determinable only upon re-inspection. This is made only at time of shipment since deterioration is progressive, and therefore any protracted period of storage before shipment always makes necessary re-inspection at time of shipment.

Comparative pay and salary roll charges at Fairfield are:—

	Average Weekly Yds Produced	Plt. Payroll Cost per Yd.	Plt. Salary Roll Cost per Yd.	Total Plt. Pay & Salary Roll Cost per Yd.
January 1920	170 360	\$0.45	\$0.0065	\$0.0515
April 1920	123 700	.058	.0093	.0673
September 1920	51 920	.079	.0280	.1070
4 wks. ending Mar. 1, 21	8 000	.147	.0350	.1820
4 " " Mar 28, 21	27 000	.057	.0190	.0760
5 " " May 3, 21	101 940	.0415	.0071	.0486
3+ " " May 24, 21	27 820	.0489	.0152	.0641

Factory operation at 49% of capacity represented almost a return to normalcy and was the main factor in reducing plant costs. The Plant Manager, Mr. Cathcart, very creditably handled the difficult problem presented by increasing operations from the March 8% of capacity to April's 49%.

The Sales Department is now securing for Fairfield nearly all the General Motors orders for rubber coated fabrics. With the community of interests which exist between that Corporation and our own, it would appear that some plan should be worked out whereby this condition should be made permanent and the profits from the manufacture of rubber coated fabrics retained within our organizations. For instance, at date of writing, General Motors' actual production, all plants combined, is in the neighborhood of one thousand cars per day, consuming, very roughly, 16,000 yards of products which can be made at Fairfield. 16,000 yards per day would consume 64% of Fairfield's capacity. Entirely apart from the point of preventing profits going outside, production of these goods would introduce a stabilizing element into that plant's operations which would be beneficial in every way and of course tend to reduce costs.

3999

Two years ago we started a fixed program of giving the best product and catering generally to the wishes of General Motors units in an endeavor to overcome the latent resentment which we experienced at the outset against the partial obligation under which the General Motors units felt themselves to be with respect to using our goods. Both Sales and Production departments have concentrated upon our standing with General Motors; we believe that the object sought has been accomplished and that today Fairfield is "solid" with General Motors. In general, our reports are that our products are considered by the several General Motors units as equal or

—5—

superior to those of competitors, and in addition we have at some slight increase in cost to ourselves, sent out our product in a form somewhat better adapted to the factory practices of the General Motors plants than have some of our competitors. Therefore the time appears to have arrived when we might capitalize this condition by some arrangement insuring to us all the General Motors' purchases which we can handle.

# P A R L I N

Construction appropriations authorized:

Major Construction—	0
Minor Construction*—	\$2,757.00
Amount authorized during April—	\$2,757.00
Amount previously authorized this year—	\$131,913.00
Amount authorized to date this year—	\$134,670.00

\* Because Accounting Department records from which these figures are compiled are never available at the time of writing the report, Minors taken up on the Accounting Department books during the previous month are shown.

4000

## Comparison of percentages of capacity operated:

	<u>April</u>	<u>March</u>	<u>February</u>	<u>January</u>	<u>December</u>
Nitrocellulose	20%	14%	5%	3%	2%
Solvents	17%	12%	7%	12%	3%
Mixtures	20%	20%	12%	11%	9%
Bronze Powder	48%	31%	16%	10%	1%
Purified Cotton	11%	3%			
Whole Plant taken as a Unit	19%	15%	8.6%	10%	6%

The increase in production of nitrocellulose and solvents was chiefly due to Ford orders, including both orders received direct by Parlin and orders placed by Ford with Parlin's customers.

Pay and salary roll charges per average unit of product, while not strictly comparative because of the wide difference in the nature of the products, show:—

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NOTE: The pages of the attached report are numbered by stamp at the bottom from 17 to 21, inclusive, and "gmc-1050" is written at the bottom of each page of the report. "+" on page 4 is handwritten. Paragraph symbols on p. 4 are handwritten. Line at end of first sentence of last paragraph on page 4 is hand-drawn.



Government's Exhibit No. 418

4001

EXCERPTS—

Wilmington, Delaware  
October 27, 1923

TO: EXECUTIVE COMMITTEE

FROM: CELLULOSE PRODUCTS DEPARTMENT

MONTHLY REPORT—CELLULOSE PRODUCTS  
DEPARTMENT—SEPTEMBER, 1923

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Eliminated

4 2088

GMC—1058

New Accounts Gained

Geo. R. Carter Co., Connerville, Ind.	order for	5,000	yards
Miller-Closman Co., Philadelphia, Pa.	" "	1,000	"
Thomas G. Plant Co., Boston, Mass.	" "	300	"
Buffalo Trunk Co., Buffalo, N. Y.	" "	3,800	"
Franklin Leather Goods Co., N.Y.C.	" "	5,000	"

COMPETITION:

The competition continues to be most severe on Sheetings. Development here is not only along the lines of lower prices on standard quality but the offering of goods of special construction.

In connection with the sale of heavy fabrikoid two important developments have just taken place in connection with the sale of 6200 (heavy) quality to Chevrolet. In the first place, following the reduction of the price of Chevrolets last month, the Chevrolet Motor Company in turn called on all their suppliers to assume a share of the burden, and this resulted in Newburgh taking a reduction of 6% in the contract price on this quality, even tho there was a firm contract with Chevrolet which ran to the end of the year. Immediately following this development Chevrolet served notice on us that they were offered a contract over the first

4

six months of 1923 on their rubber and on this same 6200 quality. The price was still lower than the reduced price just referred to and this in the face of a strong and strengthening cotton market. It was decided advisable to

meet this situation with regard to the leather, but the rubber item was left open.

MISCELLANEOUS:

Smokeless Powder

Newburgh consumed 87,498 pounds of Smokeless Powder during September, making a total of 1,717,177 pounds consumed since January 1922.

P-6

TREND OF BUSINESS:

At the end of September Parlin's unfilled orders totalled \$245,358 for delivery within 60 days. This compares with August of \$190,561.

New Accounts Gained

10 lacquer accounts—estimated annual consumption	5,400 gal.
5 enamel " — " " " " "	3,200 "
3 bronzing liquid — " " " " "	2,000 "

The increase in sales of Duco and Viscolac is offsetting and overcoming the halt and decline in Parlin's regular lines.

PROMOTION OF NEW LINES (MANUFACTURE  
AND/OR SALES):

Duco for Automobiles

The campaign to promote the sale of Duco is now producing more tangible results. Orders from Oakland in September amounted to \$45,000. Active interest in this finish is also noted from other prominent automobile makers. Our own efforts have been supplemented by remarkable free publicity in the trade journals.

It was learned that during September the Franklin Company received orders from various sections of the country for 15 cars on which customers specified Duco finish. This is ascribed to this publicity and the appearance of the Duco finished Oaklands.

Franklin, Chandler, Moon, Jordan and Cleveland are the most active companies (outside of General Motors) experimenting with Duco at present. The prospects for selling Cleveland at an early date are good. Demonstrations at Hupp and Moon were successful and both have asked for assurance that an uninterrupted supply of Duco in the required quantities is available.

The solvent situation is the fly in the ointment. This necessitates confining promotion work to those companies who have asked for demonstrations and not offering Duco to the trade in general.

Oakland is using Duco exclusively on their open models

P-7

and is asking Fisher Body Corp. to use it on Oakland closed



bodies. Gradual improvement is noted at Oakland in the finish obtained with Duco as the workmen become more skilled in handling it. Slight modifications in the formula are also adding to the appearance of the finish and probably to its durability. —

Any apprehension that may have been felt by General Motors and Parlin as to the reception by the trade and the public of the satin semi-gloss finish with Duco on the Oakland cars is dispelled by the enthusiastic reports from Oakland distributors from all over the country and the repeated urgings that Duco be used on the closed as well as the open models.

A renewal of interest in Duco is noted at both Olds and Buick. About 10 cars per day in Duco are planned by Buick in order to hold the interest of their men and to gain experience in the handling of Duco and learn more about its qualities.

Duco to match a new weathered bronze shade desired by Olds for sport models has been submitted and will probably be used in October. Olds hopes to attain the sales of 50 sport models per day in this color.

The publicity given Duco has also resulted in wide spread interest in the refinishing field. This is somewhat embarrassing as no way has yet been developed of serving this trade economically. The annual sales to even a large firm in the refinishing business are so small and the proper application of Duco involves such training even after the first demonstration that the expense of handling these accounts is prohibitive. Duco prices to the refinishers already

4006

established have been advanced nearly 50% to \$5.75 per gallon.

During September a substantial order was received.

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NOTE: "gmc-1058" is written in lower right of first three pages of Excerpts. Lines in right margin of second page are by hand. Italics indicate handwriting.

F A I R F I E L D

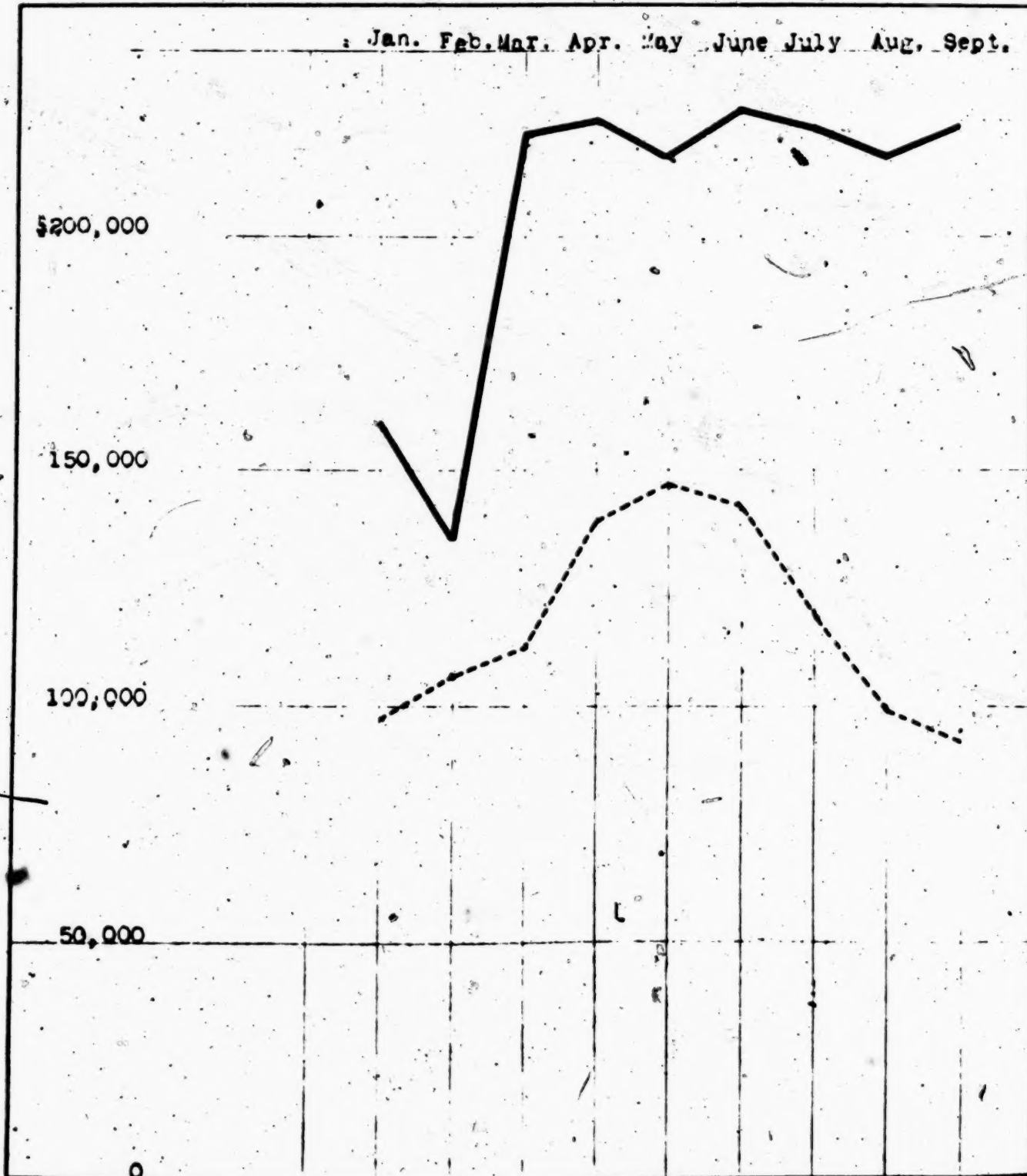
General Motors Business vs. All Other Trade

January to September, 1923 Inclusive

4007

— Sales to General Motors

- - - Sales to all others



NEW-BUROH

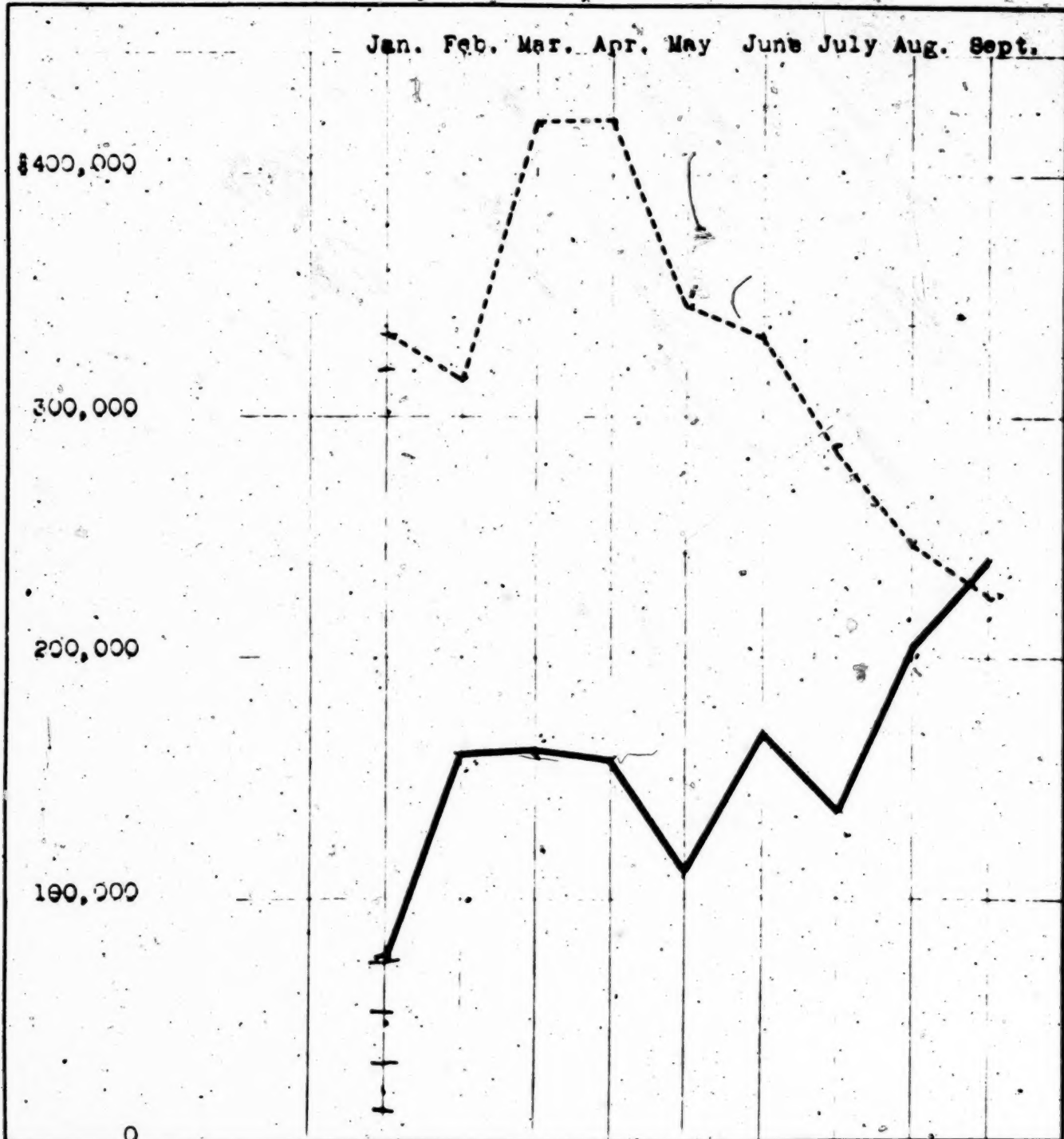
General Motors Business vs. All Other Trade

4008

January to September, 1923 Inclusive

—— Sales to General Motors

----- Sales to all others





4009

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)  
SALES DEPARTMENT  
WILMINGTON, DELAWARE

GENERAL DIRECTOR OF SALES

August 12th, 1921.

MR. LAMMOT DU PONT, VICE-PRESIDENT,  
BUILDING.

Business relations with  
General Motors on DuPont  
Products

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Referring to your verbal inquiry and Mr. Pickard's letter of August 2nd, it is the opinion of our Pyralin Division Sales organization that we are securing 100% of General Motors Pyralin Sheeting business, and have no basis for any complaint as regards co-operation, etc.

C. W. PHELLIS, GENERAL DIRECTOR OF SALES

*C W Phellis*

CWP:NAM

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NOTE: "Received Aug 12 1921 Lammot du Pont" is stamped at top and "Return to Executive Committee Room 9069" is stamped at bottom of page. "X-1100" and "8" (with a check mark) are written at top of page. "GMC 1530" is written at bottom of page. Italics indicate hand-writing.

4010

August 10, 1921.

MR. P. S. DU PONT, CHAIRMAN,  
BOARD OF DIRECTORS:

Sometime ago you inquired whether General Motors was taking its entire requirements of du Pont products from du Pont. My understanding at that time was that they were not. I have made inquiry and find the situation at present is as follows: (O.K. means that du Pont is enjoying all the business in their respective lines. Where I specify "No reason," there appears to be no reason for General Motors withholding the business from us. Where I say "With good reason," there is a logical explanation).

	Paint and Varnish	Fabrikoid	Rubber Cloth	Transp. Pyralin
Cadillac	{ Very little No reason	O.K.	O.K.	O.K.
Buick	O.K.	O.K.	60%	O.K.
Olds	O.K.	{ Part No reason	O.K.	O.K.
Oakland	{ 50% No reason	O.K.	{ Part With reason	O.K.
Chevrolet	O.K.	O.K.	O.K.	O.K.
Scripps-Booth	None	None	None	O.K.
Fisher Body	None			
G.M. Truck	O.K.	O.K.	O.K.	O.K.

— 2 —

Sales Department seems to feel that the condition is improving and that eventually satisfactory conditions will be

4011

established in every branch, but they wouldn't mind seeing things going a little faster.

I am enclosing letter from Mr. Pickard and memorandum of Mr. Lindsey giving more details, if you care to go into them.

VICE-PRESIDENT.

LduP/MD

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NOTE. "Return to Executive Committee Room 9069" is stamped at bottom of each page.

4012

GENERAL MOTORS CORPORATION  
224 WEST 57TH STREET  
NEW YORK, N. Y.

OFFICE OF THE PRESIDENT

August 23, 1921

Lammot duPont, Vice President,  
E.I. duPont de Nemours & Company,  
Wilmington, Del.

My dear Lammot: .

Your letter of August 10th was received shortly before I left for my vacation. It would seem from your summary that the Flint paint and varnish and fabrikoid interests are doing pretty well with General Motors, Scripps Booth being the only division that does no business with these companies. However, Scripps Booth is a small part of the General Motors and may be disregarded for the present.

With the change in management at Cadillac, Oakland and Olds, I believe that you should be able to sell substantially all of the paint, varnish and fabrikoid products needed; especially is this true of Cadillac.

A drive should be made for the Fisher Body business. Is there any reason why they have not dealt with us?

Very truly yours,

/s/ P. S. DU PONT  
President.

1/\*m



Mr. Pickard:

4013

Please note for your information. This is the result of the data which you obtained for me. Can you answer the question in the last sentence?

L. du Pont.

9/1/21

*O.K. Fisher in process. If no results in 60 days will let you know.*

*FWP*

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NOTE. Italics indicate handwritten entries. There is check-mark before Mr. Pickard at bottom left. Lines have been drawn through addressee caption at top and there are Received and Answered stamps of Lamont du Pont. At bottom is stamped "Return to Executive Committee Room 9069".

4014

September 2, 1921.

Mr. P. S. du Pont, President,  
General Motors Corporation,  
New York City.

Dear Pierre:

I have your letter of August 23d in regard to use of du Pont products by General Motors Corporation.

There appears to have been no real reason why the Fisher Body Corporation has not used Flint Varnish Company products, but in the recent past the subject was taken up actively, and after a conference between Mr. Sohlinger of the Flint Company, and Mr. Fisher, it was agreed that the Flint products would be tried out, and these tests are now in progress. There is every expectation that Fisher Body will in future use our products.

Sincerely yours,

LduP/MD

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NOTE. Following stamps appear: "File Copy" and  
"Return to Executive Committee Room 9069".

4015

September 12, 1924.

Mr. Z. Phelps,  
Development Department,  
E. I. duPont deNemours & Co.,  
Wilmington, Delaware.

Dear Mr. Phelps:

Referring to your inquiry of August 27th as to the amount of ethyl alcohol used by General Motors Corporation, beg to advise that from information supplied me it would appear that 75,000 gallons per year would cover General Motors' requirements.

In addition to the above, the Fisher Body Corporation—in which, as you know, General Motors has a controlling stock interest but does not control from a management standpoint—has a requirement of approximately 50,000 gallons per year.

Trusting this information is in sufficient detail,

Very truly yours,

Vice President.

JLP:V

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NOTE: Check mark appears above "27th" in the first line.

4016

September 11th, 1919

To: FINANCE COMMITTEE

FROM: CHAIRMAN

In accordance with the informal approval of the majority of the members of the Finance Committee of General Motors Corporation I have today written a letter to the Fisher Body Corporation, copy of which is attached hereto, making them a definite offer for a three-fifths interest in the Fisher Body Corporation.

It is my hope that this offer will be accepted by them and their decision known before the next meeting of the Finance Committee at which meeting formal action should be taken on this matter.

*J. J. Raskob*

7/TL

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NOTE: An oval stamp appears in the center with the number 105. At the bottom appears the handwritten words "Explain 10% of Profits as Com and Managers for operation". Italics indicate handwriting.



401

Wilmington, Delaware.

September 11th, 1919.

F. J. Fisher, President,  
Fisher Body Company,  
Detroit, Michigan.

Dear Mr. Fisher:

Referring to our recent conferences I now submit the following offer for your consideration:

I understand the Fisher Body Corporation is a New York Corporation and under its charter and the laws of the state of New York it is possible to increase its authorized common stock from 200,000 shares of no par value to 500,000 shares and to offer new stock for sale without opportunity on the part of the stockholders to purchase.

If your corporation will increase its capital the General Motors Corporation will offer to purchase 300,000 shares of common stock of no par value at \$92.00 per share, payable in cash, and as a further consideration will agree to give to the Fisher Body Corporation immediately such of its closed body business as it is able to handle now and in the future. The price of the work the Fisher Body Corporation does for the General Motors Corporation is to be determined by you and Mr. Durant; our present feeling being that the work should be billed at cost plus 12 to 18% thereof depending upon the grade of the work, the thought being that the percentage will be fixed so that the net result to the Fisher Body Corporation on all General Motors Corporation work will be to net 15% on sales cost to you. It is understood, however, that in no case shall the General

Motors Corporation be charged more for product sold to it than is charged for your products sold to others.

The Fisher Body Corporation will immediately purchase from the General Motors Corporation \$27 000 000.00 of its 6% notes—\$5 000 000.00 of which shall mature with the maturities of the present outstanding \$5 000 000.00 of the Fisher Body Corporation notes recently sold and of the balance \$1 000 000.00 shall mature on November 1st, 1919, and \$1 000 000.00 each month thereafter until all of the notes are paid. Interest on the notes shall be payable quarterly.

It is agreed that at least 251 000 shares of Fisher Body Corporation stock, which will then represent a majority of the stock then issued and outstanding to be supplied by the General Motors Corporation and the present managing stockholders shall be placed in a voting trust under which there shall be four trustees consisting of two to be named by you and Messrs. W. C. Durant and Pierre S. du Pont representing the General Motors Corporation. In case of vacancy in the trustees the vacancy shall be filled by the side whose trustee is thus lost.

There shall be fourteen directors consisting of the seven members of the Finance Committee of the General Motors Corporation and seven members to be chosen by you which fourteen directors shall serve for one year and until their successors are elected and qualified.

It is understood that the voting trustees and the directors will be told that it is the desire of the majority stockholders that the Fisher Body Corporation stock be put on a dividend basis of \$10. per share per annum payable quarterly and continued on this basis for at least five years provided, however, that the payment of such dividend will not require

more than two thirds of the company's earnings after deducting taxes, note interest and preferred stock dividends.

It is suggested that the Board of Directors of the Fisher Body Corporation have an Executive Committee in complete charge of the operations of the company except finances, the responsibility of which shall be lodged with the Finance Committee in order to lift this burden from the management and operation of the company. It is further suggested that the Executive Committee consist of seven members, two of whom shall be chosen from the General Motors Corporation and the balances from the Fisher Body Corporation and that the Finance Committee consist of five members, three of whom shall be selected from the Finance Committee of the General Motors Corporation and two from the present management of the Fisher Body Corporation.

CLEVELAND SITUATION. We understand that a certain group in Cleveland have made a proposition to the Fisher Body Corporation under which it is proposed that they form a company supplying \$10 000 000.00 for the treasury of such company through sale of its senior securities and give to the Fisher Body Corporation 51% of common stock of the company in consideration of the Fisher Body Corporation supplying the management of the Cleveland Company in building automobile bodies which will be its sole business. I understand further that while there may be no legal obligation to continue with this matter you feel that negotiations have been carried on seriously and to a point where there is a moral obligation on your part, but that it is likely that the Cleveland people will be willing to drop the whole matter if our negotiations are consummated. It is our desire that everything be done to have this whole matter dropped and with a view to accomplishing this that you will

visit Cleveland, explain the new condition to the Cleveland group and endeavor to close that matter up. In the event, however, of failing in this and you still feel morally bound to go ahead the Fisher Body Corporation will continue the negotiations along the lines indicated with a very distinct understanding, however, that under no circumstances will any division of territory be considered and agreed to informally or otherwise.

ACCESSORY PLANTS. We understand that there are three accessory companies not owned by the Fisher Body Corporation which it is desirable to acquire and which are friendly, to-wit:

The Turnstead Manufacturing Company which manufacture window regulators, curtain rollers, etc.

The International Stamping Company which does stamping work principally stamping metal doors and supplying perhaps 75 to 80% of the stamped doors of this quality made in this country; also high class automobile fenders.

The Shepard Art Metal Company which manufactures interior ornamental fixtures, silver and gold plating and enameling.

It is felt that these companies should be taken over by the Fisher Body Corporation and that negotiations to this end will be started as soon as possible after the consummation of the present deal.

If the above proposition is acceptable to you my suggestion is that our counsel, John T. Smith, get into immediate communication with your lawyers with a view to doing all of the things necessary to quickly consummate the deal it being understood that many details of minor importance will arise and be straightened out in such conference.



Assuring you of my appreciation of the frank discussion and courteous treatment received at the hands of Mr. Mendelssohn and your goodself and with kindest personal regards, I remain .

Sincerely yours,

Chairman

7/ET

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NOTE: (Copy) appears in the center.

September 25, 1919.

General Motors Corporation,  
New York City.

Dear Sirs:-

I. Referring to the letter of your Chairman addressed to F. J. Fisher, President of Fisher Body Corporation, dated September 11, 1919, and to the subsequent conferences which the undersigned have had with your representatives, we confirm that the proposition for the acquisition by the General Motors Corporation of a block of common stock of the Fisher Body Corporation will be satisfactory to us and will receive our active cooperation and support.

II. We own or control at present approximately 140,000 shares, or 70 per cent., of the outstanding 300,000 shares of no par value common stock of the Fisher Body Corporation, which is a corporation organized under the laws of the State of New York, having at present outstanding, in addition to the said common stock, approximately 41,000 shares of Seven Per Cent Cumulative Preferred Stock. We are advised that under its charter and the laws of the State of New York it has the power, by consent of three-fifths of each class of its stockholders, to increase its authorized common stock to 500,000 shares having no par value, and to offer the 300,000 shares of new common stock thus created for sale without first offering the same for subscription by the stockholders of the Corporation.

III. Subject to the action of stockholders in authorizing the increase of its capital stock, in favor of which we shall

vote our stock, we agree to cause Fisher Body Corporation to sell to General Motors Corporation 300,000 shares of its common stock having no par value at the price of \$23 per share, provided that General Motors Corporation will simultaneously enter into an agreement with the Fisher Body Corporation to give to the latter Corporation forthwith all of the open and closed body business of the General Motors Corporation which the Fisher Body Corporation may be able to handle now and in the future, provided, however, that the General Motors Corporation shall have the right to continue to manufacture its own open bodies in existing plants to the same extent as they are at present doing and that any contracts at present existing for bodies shall not be renewed but shall run to maturity unless they can be cancelled to mutual advantage. Such agreement shall be in writing, shall provide in substance that the price to be paid by the General Motors Corporation for bodies thereunder shall be regulated according to the grade of the work, but in such manner that the average net profit to the Fisher Body Corporation on all such work will be 17.6 per cent. on cost price; provided that in no case shall the General Motors Corporation be charged more than is charged to other customers for like products; and said contract shall in other respects be in form satisfactory to our respective counsel.

IV. Payment for said 300,000 shares of the stock of the Fisher Body Corporation shall be made by the General Motors Corporation as to 10 per cent. thereof in cash; as to the balance, by the delivery to the Fisher Body Corporation of notes of the General Motors Corporation, bearing interest at the rate of

six per cent. per annum, \$5,000,000 of which shall mature with the maturities of the present outstanding \$5,000,000 Six Per Cent. Serial Gold/Notes of the Fisher Body Corporation, and as to the balance \$1,000,000 thereof on or before November 1, 1919, and \$1,000,000. thereof on or before the first day of each month thereafter until all of the notes shall have been paid. Interest on said notes shall be payable quarterly commencing October 1, 1919.

V. Upon the purchase of said 300,000 shares of common stock of the Fisher Body Corporation by General Motors Corporation, all of said 300,000 shares together with 35,000 shares of the common stock of the Corporation now held by us shall be deposited with the Trustees under a Voting Trust Agreement, in form mutually satisfactory to your counsel and to ourselves, whereby the right to vote said stock for five years shall be placed in four Trustees, who in the first instance shall be Messrs. F. J. Fisher and Louis Mendelssohn, representing the undersigned, and Messrs. W. C. Durant and Pierre S. duPont, representing the General Motors Corporation. In case either of said two Trustees representing the undersigned shall die, his successor shall be named by his executors or administrators; in case he shall cease to act for any other reason, he shall name his own successor. In case either of the Trustees representing the General Motors Corporation shall for any reason cease to act, his successor shall be named by the General Motors Corporation and their successors if any, shall be likewise chosen.

VI. Provision shall be made by appropriate amendment

*The figure secured was placed from  
the Robertson of J. I. S. and Co. office 7/2/20*



of the by-laws of the Fisher Body Corporation for a board of fourteen directors, and it is agreed, and the Voting Trust Agreement shall provide, that the voting Trustee shall vote the stock of the Corporation held by them for a board consisting of seven members to be nominated by the Finance Committee of the General Motors Corporation, and seven members to be nominated by F. J. Fisher and Louis Mendelsohn, and that said stock shall be similarly voted at each succeeding meeting for the election of directors during the continuation of the voting trust.

VII. It is further agreed that effective provision shall be made by appropriate amendment of the by-laws of the Fisher Body Corporation so that not less than two-thirds of the net earnings of the Corporation in each fiscal year, after deducting taxes, interest and preferred stock dividends, shall be distributed in dividends to the common stock until such stock shall have received at least a dividend of \$10 per share during such year; such provision to continue for at least five years. This amendment of the by-laws shall be adopted by the Stockholders at the special meeting called to authorize the increase of capital stock, and the Certificate of Incorporation of the Fisher Body Corporation shall at the same time be so amended as to provide that this amendment of the by-laws shall not be amended, repealed or otherwise altered except by a majority vote of the stockholders.

VIII. Provision shall be made by amendment of the by-laws of the Fisher Body Corporation, in form mutually satisfactory to you and ourselves, for the creation of an Executive Committee which shall have complete charge of the operations of the

Corporation, except finances. Such Committee shall consist of seven members, two of whom shall be chosen from the representatives of the Board of the General Motors Corporation, and the balance from the members of the Board nominated by Messrs. Fisher and Mendelssohn. Provision shall further be made for a finance Committee, to consist of five members, three of whom shall be selected from the members of the Board nominated by the General Motors Corporation and two from the members of the Board nominated by Messrs. Fisher and Mendelssohn, of whom one shall be Louis Mendelssohn so long as he shall be a director. Such Finance Committee shall have general charge of the financial affairs of the Corporation, subject however to the control of the Board of Directors.

IX. A certain group in Cleveland have made a proposition to the Fisher Body Corporation under which it is proposed that they form a company supplying \$10,000,000 for the treasury of such company through sale of its senior securities, and give to the Fisher Body Corporation 51 per cent. of the common stock in consideration of the Fisher Body Corporation supplying the management of such company in building automobile Bodies, which will be its sole business. It is understood that this negotiation will be dropped if possible, but that in the event that we shall feel either legally or morally bound to proceed, the Fisher Body Corporation will continue the negotiations along the lines indicated, provided, however, that under no circumstances will any division of territory between the new Cleveland corporation and the Fisher Body Corporation be considered or agreed to, informally or otherwise.

X. There are three accessory plants not owned by the Fisher Body Corporation which it is desirable to acquire and the ownership of which is in friendly hands. to-wit:

The Ternsted Manufacturing Company, which manufactures window regulators, curtain rollers, etc.

The International Metal Stamping Company, which does stamping work principally, stamping metal doors and supplying perhaps 75 or 80 per cent of the stamped doors of this quality made in this country; also high class automobile fenders.

The Shepard Art Metal Company, which manufactures interior ornamental fixtures, silver and gold plating and enameling.

We understand it is felt that these companies should be taken over by the Fisher Body Corporation, and negotiations to this end will be started as soon as possible after the consummation of the plan for the increase of capital and other matters herein specified.

Upon receipt of your confirmation of the terms of this letter, which in some respects modified the letter of your Chairman to Mr. Fisher of September 11, 1919, and that you are prepared to purchase 300,000 shares of the no par value common stock of the Fisher Body Corporation for the price and upon the terms and conditions herein set forth, we will proceed forthwith to initiate the necessary corporate proceedings for the increase of the capital stock of the Corporation, and will consummate said sale and all the other matters herein referred to as soon as practicable.

Yours very truly,



1028

September 25, 1919.

Messrs. F. J. Fisher,  
Charles T. Fisher.

Dear Sirs:

Referring to the letters exchanged between this Corporation, on the one part, and yourselves together with Messrs. Louis Mendelssohn and Aaron Mendelson, on the other part, dated September 25, 1919, which provide for the increase of the capital of the Fisher Body Corporation, the purchase by this Corporation of 300,000 shares of the no par value common stock of said Corporation, and for the reorganization of its Board of Directors, this is to confirm our understanding that upon the consummation of our purchase and the reorganization of said Board of Directors as therein provided, and in view of the great expansion of the business of the Fisher Body Corporation which will follow, a contract or contracts are to be entered into between Fisher Body Corporation and yourselves whereby, in addition to your present salaries, there shall be paid to you, for the period of five years 5 per cent of the net profits of the Fisher Body Corporation in each year, before deducting Federal taxes or reserves for Federal taxes, special compensation of 5% to four Fisher boys under existing contract, and before payment of any dividends, and with normal allowances for depreciation; such sum to be divided among you as you may determine, as part compensation for your services to the Corporation in your respective positions connected with its management, or if you so direct any portion of said sum to be paid to any other person or persons connected with the management of the Company. At the same time your present contracts of employment are to be so modified as to give you the option of terminating the same at the end of five years.

Yours very truly,

1747

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4029

FISHER BODY CORPORATION

New York, October 18, 1919.

To the Holders of Preferred and  
Common stock of Fisher Body Corporation:

You will receive herewith notice of a special stockholders' meeting to be held November 6, 1919, to act upon a recommendation of the Board of Directors that the authorized amount of the common stock of the Corporation having no par value be increased from 200,000 shares to 500,000 shares, and that the Certificate of Incorporation and by-laws of the Corporation be amended in the respects specified in said notice.

Your directors proposed to sell the additional 300,000 shares of common stock to General Motors Corporation at the price of \$92 per share, and at the same time to enter into a manufacturing agreement whereby General Motors Corporation will agree to give to your company substantially all of its open and closed body business which your company can handle except to such extent as General Motors Corporation now carries on such business at its own and affiliated plants or under existing contracts, the basis of such agreement to be cost plus an agreed manufacturing profit.

Your directors feel sure that the close business relations with the General Motors Corporation which will thus be established will be of great advantage to your company and to all its stockholders. The new capital provided by the sale of the 300,000 shares of common stock will, it is

estimated, be sufficient to provide for all present needs of the greatly increased business afforded by the proposed manufacturing contract, as well as to retire at maturity the present outstanding Serial Gold Notes of the company.

The financial position of your company will be improved, not only by the proceeds of the sale of the new stock, but also through the advantages which will come from close affiliation with an organization of great strength.

Page 2

General Motors Corporation has been and is one of your company's principal customers, and continuity of the demand for our products will now be assured. The immediate result of the proposed arrangement will be a substantial increase in production through the erection of additional facilities already planned.

By acquisition of the new capital and the establishment of the proposed new facilities the asset value of the common stock will be measurably increased upon the consummation of the sale, while the position of the preferred stock will be immensely strengthened. The by-laws of your company are to be amended so as to provide for at least five years from October 1, 1919, two-thirds of the net earnings of the company, after all fixed charges, including preferred stock dividends and sinking fund requirements, will be paid in dividends to the holders of the common stock until they have received dividends at the rate of at least \$10 per share per annum. The greatly increased earnings which may reasonably be anticipated from the use of the new capital and expansion of business, applied under this by-law, which cannot be altered except by stockholders' vote, should pro-

vide a prompt and satisfactory dividend basis for the common stock.

A Voting Trust will be created which will insure for at least five years from October 1, 1919, the continuity of the present operating management, and of the other features of the proposed transaction outlined above.

Your directors have no hesitation in expressing their gratification at the proposed arrangement, and in urging all holders of stock, preferred as well as common, to approve the increase of capital, and the amendments of the Certificate of Incorporation and by-laws referred to in the accompanying notice of meeting.

Fred J. Fisher,  
President.

— By order of the  
Board of Directors.

4032

GENERAL MOTORS CORPORATION  
OFFICE OF THE SECRETARY

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FILE NO. 1889

BETWEEN Fisher Body Corporation OF Detroit, Mich.

AND Fred J. Fisher  
Louis Mendelssohn OF Detroit, Mich.  
W. G. Durant " New York, N. Y.  
Pierre S. duPont "

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SUBJECT Voting Trust Agreement  
Covering stock of Fisher Body Corporation.

DATE November 24, 1919

TERM To October 1, 1924

TIME FOR PERFORMANCE

AMOUNT

METHOD OF PAYMENT

OPINIONS, NOTICES, AND REMARKS

---

RECEIVED FROM

SECRETARY BY LWC

RECORDED AND NUMBERED

COMPTROLLER BY H Howe

INDEXED December 22, 1924

SECRETARY BY LWC



## FISHER BODY CORPORATION

OWNERS OF STOCK IN FISHER BODY  
CORPORATION

AND

FRED J. FISHER

LOUIS MENDELSSOHN

W. C. DURANT

PIERRE S. DU PONT

VOTING TRUSTEES

---

VOTING TRUST AGREEMENT

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Dated November 24, 1919.

AGREEMENT, made in the City of New York, the 24th day of November, 1919, between such OWNERS OF STOCK IN FISHER BODY CORPORATION, as may become parties to this Agreement, in the manner hereinafter provided (hereinafter termed Stockholders), parties of the first part, and FRED J. FISHER, LOUIS MENDELSSOHN, W. C. DURANT and PIERRE DU PONT (hereinafter called the Voting Trustees), parties of the second part.

WHEREAS Fisher Body Corporation, (hereinafter called the Company) is a corporation organized under the laws of the State of New York, with an issued capital stock consisting of \$4,213,500 par value, of preferred stock divided into 42,135 shares of the par value of \$100 each, and 500,000 shares of common stock having no par value; and

WHEREAS in order to secure continuity of management and policy of the Company it is deemed desirable that the stockholders deposit their stock with the Voting Trustees hereunder:

NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES:

FIRST: Each stockholder subscribing this Agreement hereby agrees to transfer to the Voting Trustees the stock in the Company held by him, by delivering to the Voting Trustees the certificates for said Stock, duly endorsed in blank or accompanied by proper instruments of assignment and transfer thereof in blank duly executed, and in either case properly stamped for transfer. Any owner of stock in the Company may at any time become a party to, and shall

be bound by the provisions of, this Agreement by signing the same and by such delivery of certificates. The Voting Trustees, however, may at any time, in their discretion, permit any owner of stock in the Company to become a party to this Agreement, without signing the same, solely by

—3—

delivery of certificates of stock in the manner aforesaid and by accepting in respect thereof one or more Voting Trust Certificates issued under this Agreement, and such owner by such acceptance shall become a party to, and be bound by the provisions of, this Agreement.

SECOND The Voting Trustees hereby agree with the Stockholders, and with each and every holder of Voting Trust Certificates issued as hereinafter provided, that, from time to time, upon request, they will cause to be issued to the Stockholders, or upon their order, in respect of all stock so transferred to the Voting Trustees and so by them received from the Stockholders, Voting Trust Certificates which, in respect of common stock so transferred shall be in substantially the following form:

(FORM OF VOTING TRUST CERTIFICATE FOR COMMON STOCK)

No.

Shares

STATE OF NEW YORK

FISHER BODY CORPORATION

VOTING TRUST CERTIFICATE

for Common Stock.

THIS IS TO CERTIFY that, as hereinafter provided,  
will be entitled to receive on October  
1, 1924, a certificate or certificates, expressed to be fully

paid for \_\_\_\_\_ shares having no par value, in the Capital Stock of Fisher Body Corporation (hereinafter called the Company), a corporation of New York, and in the meantime will be entitled to receive payments equal to the dividends, if any, collected by the undersigned Voting Trustees upon a like number of such shares standing in their names. Until after the actual delivery of such stock certificates, the Voting Trustees shall possess, in respect of any and all such stock, and shall be entitled, in their discretion, to exercise, all rights of every name and nature, including the right to vote and consent for every purpose; it being expressly stipulated that no voting right as a stockholder passes to the holder of this Voting Trust Certificate by implication or otherwise.

—4—

This Voting Trust Certificate is issued pursuant to, and the rights of the holder hereof are recited in, and subject to, the terms and conditions of a certain Voting Trust Agreement dated the \_\_\_\_\_ day of November, 1919, and filed with Bankers Trust Company at its office in the City of New York, between Owners of Stock in the Company and Fred J. Fisher, Louis Mendelssohn, W. C. Durant and Pierre S. du Pont, Voting Trustees.

No stock certificates shall be due or deliverable hereunder before the first day of October, 1924, but the Voting Trustees in their discretion may make earlier delivery.

This Voting Trust Certificate is transferable at the agency of the Voting Trustees by the registered holder, either in person or by attorney duly authorized, in accordance with rules established for that purpose by the Voting Trustees and on surrender hereof; and until so transferred, the Voting Trustees may treat the registered holder as owner hereof



for all purposes whatsoever, but they shall not be required to deliver stock certificates hereunder without the surrender hereof. In connection with, and as a condition of, making or permitting any transfer or delivery of stock certificates or Voting Trust Certificates, the Voting Trustees under said Agreement may require the payment of a sum sufficient to pay or reimburse them for any stamp tax or other governmental charge in connection therewith.

This Voting Trust Certificate is not valid unless duly signed on behalf of the undersigned Voting Trustees by \_\_\_\_\_, their agent, and also registered by \_\_\_\_\_, registrar.

IN WITNESS WHEREOF the Voting Trustees have caused this Voting Trust Certificate to be signed by \_\_\_\_\_, their duly authorized agent for that purpose, this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_

Fred J. Fisher     )  
 Louis Mendelssohn    ) Voting Trustees.  
 W. C. Durant         )  
 Pierre S. du Pont     )

by \_\_\_\_\_

Their Agent,

Registered,

Registrar,

by \_\_\_\_\_

—5—

In case any holder of preferred stock of the Company shall become a party to this agreement and deliver certifi-

catés for preferred stock to the Voting Trustees, such holder of preferred stock shall be entitled to receive a Voting Trust Certificate similar in form to that hereinabove provided in respect of the common stock; but with an appropriate reference to the rights of such holder of preferred stock in the event of the exercise by the Company of its right to redeem such preferred stock, and with such other additions or modifications as the Voting Trustees may determine to be appropriate for a preferred stock Voting Trust Certificate issued under this Agreement.

THIRD. The certificates for stock of the Company transferred to the Voting Trustees as aforesaid shall be surrendered by the Voting Trustees to the Company and cancelled, and the certificates therefor shall be issued to the Voting Trustees, in which it shall appear that such certificates are issued pursuant to this Agreement, and in the entry of the Voting Trustees as owners of such stock in the proper books of the Company that fact shall also be noted. Duplicates of this Agreement shall be filed in the office of the Company in the City of Detroit, Michigan and in the office in the City of New York of the Registrar of said Voting Trust Certificates.

FOURTH. On the first day of October, 1924, or whenever, earlier, the Voting Trustees in their discretion shall decide to make such delivery, the Voting Trustees in exchange for, and upon surrender of, any Voting Trust Certificate then outstanding, will, in accordance with the terms thereof and subject to Article Seventh hereof, deliver, at their office or agency in the Borough of Manhattan, in the City of New York, certificates of stock of Fisher Body Corporation, aforesaid, to the amounts and of the class called

for by the respective Voting Trust Certificates, and may require the holders of the Voting Trust Certificates to exchange them for such certificates of stock, subject, however, to the redemption of preferred stock by the Company in accordance with the terms of the certificates for such stock. In case of redemption of preferred stock as aforesaid the Voting Trustees on receipt by them of the redemption price pay the same over to the holders of the preferred stock Voting Trust Certificates representing preferred stock so

—6—

redeemed, upon the surrender of such Voting Trust Certificates.

Whenever, pursuant to the foregoing provisions of this Article Fourth, certificates for stock of the Company shall become deliverable, or at any time thereafter, the Voting Trustees may deposit with any bank or trust company in good standing having an office in the Borough of Manhattan, in the City of New York, the stock certificates so deliverable, duly endorsed in blank or accompanied by proper instruments of assignment and transfer in blank, duly executed, for a number of shares equal to the number of shares of stock of each class called for by the outstanding Voting Trust Certificates, with authority to such depository to make delivery of such stock certificates, subject to Article Seventh hereof, in exchange for the proper Voting Trust Certificates, and thereupon all further obligation or duty of the Voting Trustees under this Agreement to the holders of Voting Trust Certificates shall terminate.

FIFTH. The Voting Trustees may cause to be issued hereunder temporary printed Voting Trust Certificates conforming generally to the form hereinbefore set forth and

may cause the same to be exchanged for definitive Voting Trust Certificates in substantially said form.

The Voting Trust Certificates issued hereunder shall be transferable by delivery thereof when duly assigned in writing by the registered holders thereof, either in person or by attorney duly authorized; but until transfer thereof on the books of the Voting Trustees in accordance with rules established for that purpose by them, the Voting Trustees may treat the registered holders as owners thereof for all purposes whatsoever, but the Voting Trustees shall not be required to deliver stock certificates hereunder without the surrender of the Voting Trust Certificates calling therefor. The transfer books for Voting Trust Certificates of both classes may be closed by the Voting Trustees, at any time prior to the payment or distribution of dividends, or for any other purpose.

In connection with, and as a condition of, making or permitting any transfer or delivery of stock certificates or Voting Trust Certificate, the Voting Trustees may require the payment of a sum sufficient to pay or reimburse them for any stamp tax or other governmental charge in connection therewith.

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SIXTH. Prior to the delivery, pursuant to Article Fourth hereof, of certificates of stock of the Company in exchange for Voting Trust Certificates, or the deposit, pursuant to said Article, of stock certificates for the purpose of such delivery, the holder of each Voting Trust Certificate shall be entitled to receive from time to time payments equal to the dividends, if any, collected by the Voting Trustees upon a like number of shares of stock of



the Company as is called for by such Voting Trust Certificate; provided, however, that if any such dividend shall be paid in fully paid stock of the Company the Voting Trustees shall likewise hold, subject to the terms of this agreement, the certificates for stock which shall be received by them on account of such dividend, and the holder of each Voting Trust Certificate shall be entitled to receive one or more proper Voting Trust Certificates issued under this Agreement for stock to the amount received by the Voting Trustees in payment of the dividend upon the number of shares of stock called for by such Voting Trust Certificate. The Voting Trustees shall not in any event be required, in respect of any such dividend in stock, to deliver Voting Trust Certificates calling for a fraction of a share but may, in lieu thereof, deliver in respect of fractional interests scrip in such form as the Voting Trustees may, in their discretion, determine, and said increased stock, so subscribed by the Voting Trustees, shall become and be subject to the terms of this Voting Trust agreement.

In case the Company shall determine to increase the amount of its outstanding stock and such stock shall be offered to its stockholders for subscription, then in such case upon receiving from the holder of any Voting Trust Certificate, prior to the time limited by the Company for subscription and payment, a request to subscribe in his behalf and the money required to pay for a stated amount of such increased stock (not in excess of the ratable amount subscribable in respect of the stock represented by such Voting Trust Certificate), the Voting Trustees will make said subscription and payment and, upon receiving from the Company the certificates for the stock so subscribed for, will issue one or more Voting Trust Certificates in

respect thereof to the holder of the Voting Trust Certificate who shall have made such request or payment.

—8—

SEVENTH: Any Voting Trustee may at any time resign by instrument in writing addressed to the other Voting Trustees and delivered at the office of the Transfer Agent. In case of the death, resignation, or inability to act, of Fred J. Fisher, the following persons shall automatically succeed him as Voting Trustee and shall succeed each other as such Voting Trustee in any of the events above stated, in the order following: Charles Fisher, William Fisher, Lawrence Fisher. In case of the death, resignation or inability to act, of Louis Mendelssohn, the following persons shall automatically succeed him as Voting Trustee and shall succeed each other as such Voting Trustee in any of the events above stated, in the order following: A. Mendelson,

\_\_\_\_\_ In case of the death, resignation, or inability to act, of the last surviving successor of either said Fred J. Fisher, or Louis Mendelssohn, as herein designated, his successor shall be appointed by such surviving successor's executor or other legal representatives. In case of the death, resignation or inability to act of either the said W. C. Durant or said Pierre S. du Pont (or of any successor to either of them), his successor shall be appointed by General Motors Corporation. In case the appointment of any successor Voting Trustee shall not be made as hereinabove provided within sixty days after the occurrence of the vacancy to be filled by such successor, such vacancy may be filled by appointment by the remaining Voting Trustees. Any appointment of a Voting Trustee shall be by instrument in writing, filed in the office

of the Transfer Agent. Any successor Voting Trustee appointed or designated as aforesaid shall have all the powers of a Voting Trustee hereunder, and the term "Voting Trustees" as used herein, and in said Voting Trust Certificates, shall apply to the parties of the second part and their successors hereunder. Notwithstanding any change in the Voting Trustees, the Voting Trustees for the time being may adopt and issue Voting Trust Certificates in the names of the original Voting Trustees, the parties hereto of the second part. The Voting Trustees shall have full power to appoint a secretary of the Voting Trustees and also from time to time agents to receive deposits of stock in the company on their behalf, and agents and registrars to sign in their behalf and transfer and register the Voting Trust Certificates, and to fix the compensation of such secretary and other agents and registrars. Such agent to sign Voting Trust Certificates shall at all times be a bank or trust company and shall as

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depository have custody of the certificates for all stock deposited hereunder, subject to the orders of the Voting Trustees. The Bankers Trust Company is hereby appointed in the first instance to act as such agent and depository, and the Central Union Trust Company of New York to act as Registrar. Every such order shall be full protection to the depository acting in accordance therewith. The compensation of any agents and registrars appointed by the Voting Trustees, and all other expenses of the Voting Trustees, shall be paid by the Company.

EIGHTH: Only the unanimous action of the Voting Trustees expressed from time to time at a meeting at which

all are present in person or by proxy, or expressed by writing signed by all in person or by attorney duly authorized without a meeting shall constitute the action of the Voting Trustees hereunder and no action of the Voting Trustees shall be valid or effective unless such action is unanimous. In case of a vacancy in the Voting Trustees, no action shall be taken by the remaining Trustees until such vacancy has been filled. At any meeting of the Voting Trustees, any Voting Trustee may vote in person or by proxy to any other Voting Trustee or other person; and any Voting Trustee may give a power of attorney to any other Voting Trustee or other person to sign for him in case of action of the Voting Trustees taken in writing without a meeting. The Voting Trustees may adopt their own rules of procedure. Any Voting Trustee may act as a director or officer of the Company or any controlled or subsidiary company; and he, or any firm of which he may be a member, or any corporation of which he may be a stockholder, director or officer, may, to the extent permitted by law, contract with the Company or any controlled or subsidiary company as fully as though he were not a Voting Trustee.

NINTH: Until delivery or deposit of all the stock certificates, in accordance with Article FOURTH hereof, the Board of Directors of the Fisher Body Corporation shall consist of fourteen directors, and the Voting Trustees shall, at each stockholders' meeting, for the election of directors of the Company, vote for seven directors, who shall be nominated to them in writing by the General Motors Corporation; and said Voting Trustees shall also, at each stockholder's meeting, for the election of directors, vote for seven directors, who shall be nominated by the Fisher-Mendelson interests.



in the following manner: Six of the nominees are hereby designated and shall be elected directors at the first election of directors next following the execution hereof, viz: Fred J. Fisher, Louis Mendelssohn, Charles Fisher, A. Mendelson, William Fisher, and Lawrence Fisher. The Seventh director shall be nominated in writing by Fred J. Fisher and Louis Mendelssohn, or their successors, as Voting Trustees. The seven directors so nominated and elected shall continue to be nominated and elected during the continuance of this voting trust, unless the said Fred J. Fisher and Louis Mendelssohn, their successor or successors, shall in writing nominate a substitute or substitutes for any one or more of said directors, in which event said substitute or substitutes shall be elected. In case such nominations shall not be made the Voting Trustees shall at any such meeting vote for the election of such directors as in their judgment they shall deem suitable, and in all other respects said Voting Trustee shall possess, in respect of any and all stock deposited hereunder, and shall be entitled, in their discretion, to exercise, all the powers of absolute owners of said stock, including the right to vote and consent for every purpose and to receive dividends on said stock; and no such voting or other right or power shall pass to holders of Voting Trust Certificates or to others by or under the Voting Trust Certificates, or by or under this Agreement, or by or under any agreement, whether by implication or otherwise.

In voting the stock held by them (which they may do either in person or by proxy to any one or more of them or to any other person or persons), for any purpose hereby committed to their discretion, the Voting Trustees will exercise their best judgment; but they assume no responsibility

in respect of the management of the affairs of the Company or in respect of any action taken by them or in pursuance of their consent thereto as such stockholders, or pursuant to their votes so cast, and no Voting Trustee incurs any responsibility by reason of any error of law or of any matter or thing done or omitted under this Agreement, except for his own individual malfeasance.

TENTH: All notices to be given to the holders of Voting Trust Certificates hereunder shall be published in a daily newspaper of general

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circulation published in the City of New York once in each week for four successive weeks and a copy of such notice shall also be mailed postpaid addressed to each holder of Voting Trust Certificates at his address as registered on the books of the transfer agent appointed by the Voting Trustees on or before the day of the first publication thereof. Any notice whatsoever, when so published and mailed, shall be taken and considered as though personally served on all holders of Voting Trust Certificates, and upon all parties becoming bound hereby, as of the date of the commencement of publication thereof, and such notice shall be the only notice required to be given under any provision of this Agreement.

ELEVENTH: This Agreement may be executed in several counterparts, each of which, so executed, shall be deemed to be an original; and such counterparts shall together constitute but one and the same instrument.

IN WITNESS WHEREOF the Voting Trustees, the parties of the second part, have signed this Agreement in the City

of New York, and the parties of the first part have signed this Agreement or have transferred and delivered their stock and accepted Voting Trust Certificates issued under this Agreement, all as of the day and year first hereinabove mentioned.

(Signed)	F. J. Fisher	)	
"	L. Mendelssohn	)	
"	W. C. Durant	)	Voting Trustees
"	Pierre S. du Pont	)	

Owners of Stock in Fisher Body Corporation

NAMES

NUMBER OF SHARES

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NOTE: In the upper left hand corner appears the words "Receipt—Contracts." A handwritten signature appears in the lower righthand corner.

4018

AGREEMENT, made this ninth day of December, 1919, by and between FISHER BODY CORPORATION, a corporation organized and existing under the laws of the State of New York (hereinafter called the Corporation), party of the first part, and FRED J. FISHER, of Detroit, Michigan, party of the second part.

**W I T N E S S E T H:**

WHEREAS the parties hereto entered into a certain agreement under the date of August 25, 1916, whereby upon the terms and conditions therein stated the Corporation agreed that the said party of the second part should continue, and the said party of the second part agreed to serve, as President of the Corporation for a period of ten years from August 21, 1916; and

WHEREAS, owing to the fact that the Corporation is about to increase its capital and to greatly expand its business operations, the parties hereto desire to modify said agreement:

**NOW, THEREFORE, IT IS AGREED AS FOLLOWS:**

**FIRST,** The term for which said party of the second part shall be employed by the Corporation shall continue until, and terminate on, the 1st day of October, 1924.

**SECOND:** In addition to the compensation provided to be paid to the said party of the second part by said Agreement Schedule A hereto, said party of the second part shall receive, and the Corporation agrees to pay to him in each fiscal year (and pro rata for each portion of a fiscal year) between the date hereof and said October 1, 1924, two and one-half per cent. of the net earnings of the Corporation, before deducting Federal taxes or reserves for Federal taxes, before payment of any dividends and normal allowances for depreciation, and before payment to any other officer or employee of the Corporation as compensation of any stated percentage of its net earnings, in addition to fixed salary; or in the alternative to pay the whole or any portion of such percentage of said net earnings in any such year or years to any person or persons in the employ of the Corporation to whom he may by instrument in writing assign or transfer the same.

**THIRD:** Except as herein modified, said agreement schedule A hereto is hereby ratified and confirmed.

**IN WITNESS WHEREOF** the Corporation has caused this instrument to be signed by its President or Vice-President and its corporate seal to be hereunto affixed and attested by its Secretary or Assistant Secretary, and the party of the second part has hereunto set his hand and seal the day and year first above written.

FISHER BODY CORPORATION  
By Charles T. Fisher,  
Vice-President.  
FRED J. FISHER (L.S.)

ATTEST:  
A. Mendelson,  
Secretary.

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## SCHEDULE A.

AGREEMENT made this 25th day of August, 1916, by and between FISHER BODY CORPORATION, a corporation organized and existing under the laws of the State of New York (hereinafter called the Corporation), party of the first part, and FREDERICK J. FISHER, of Detroit, Michigan, party of the second part.

## WITNESSETH:

FIRST: Said Fisher has been elected a director and President of the Corporation, and has assumed or is about to assume the duties of said office. The Corporation agrees that said Fisher shall be continued, and said Fisher agrees to serve, as President of the Corporation for a period of ten years from August 21, 1916.

SECOND: In addition thereto and independently of whether the said Fisher shall at any time be reelected as President and director of the Corporation, said Fisher shall be employed by the Corporation for said period of ten years from August 21, 1916, to perform such duties in connection with the general management of the company's business as is properly to be performed by the President of the Corporation, and as may be designated from time to time by the by-laws of the Corporation or by resolution of its Board of Directors and shall and will during such period devote his entire time and energy to the performance of such duties in connection with the management of the Corporation, and of any companies which may be controlled by it. As compensation for such services said Fisher shall receive, and the Corporation agrees to pay him, a salary of thirty three thousand dollars (\$33,000.00) per annum, in addition to the salary which he shall receive from Fisher Body Company of Canada, Limited, a company controlled by the Corporation, which salary it is agreed shall be the sum of \$7200. per annum. Said salaries shall be payable in equal monthly installments on the first day of each and every month, a proportionate payment being made on September 1, 1916, for the period from August 21, 1916 to said September 1, 1916. If at any time during said period of ten years said Fisher should not be elected President and a director of the Corporation, as herein provided, said salaries shall nevertheless be continued as long as he shall be ready, willing and able to render the services herein specified.

THIRD: The said Fisher covenants and agrees that he will not, prior to July 1, 1926, enter into, engage in, or participate in, directly or indirectly, or accept employment in, or in connection with, any automobile or wagon body manufacturing or selling business, or any automobile manufacturing business in the United States or in Canada, wherever located, other than the Corporation or a company controlled by the Corporation. This covenant is made in consideration of the sale to the Corporation of the assets of the Fisher Body Company, Fisher Closed Body Company, and the stock of the Fisher Body Company of Canada, Limited, in which companies the said Fisher has heretofore been heavily interested as a stockholder and officer. This covenant shall not apply, however, to any automobile accessory business which does not include the manufacture, use or sale of automobile bodies or complete automobiles.

4050

IN WITNESS WHEREOF the Corporation has caused this instrument to be signed by its President or Vice-President and its corporate seal to be hereunto affixed, attested by its Secretary or Assistant Secretary, and the said Fisher has hereunto set his hand and seal the day and year first above written.

FISHER BODY CORPORATION

By Louis Mendelsohn  
Treasurer.

ATTEST:

Arnon Mendelson,  
Secretary.  
(Corporate seal)

FREDERICK J. FISHER (L.S.)

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**BANKERS TRUST  
COMPANY**

10 WALL STREET  
NEW YORK  
February 11, 1925.

Mr. Fred J. Fisher :  
Mr. Louis Mendelssohn: Voting Trustees  
Mr. John J. Raskob : Fisher Body Corporation  
Mr. Pierre S. DuPont :

Gentlemen:

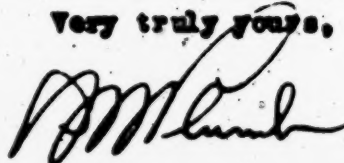
**ATTENTION : Mr. John J. Raskob**

According to the terms of the Voting Trust Agreement dated November 14, 1919 it is provided that on October 1, 1924 the holders of the Voting Trust certificates issued under such agreement will be entitled to receive a certificate or certificates for no par value common stock of the Fisher Body Corporation in exchange for voting trust certificates.

Article Fourth of the Voting Trust Agreement provides for the deposit by the Trustees of the stock, duly endorsed for transfer with some bank or trust company in New York, with authority to such depository to make delivery thereof in exchange for Voting Trust Certificates. As your Agent we now hold the stock certificates, but which have not been endorsed by you as Voting Trustees.

As several holders of Voting Trust Certificates are endeavoring to have their Voting Trust Certificates exchanged we would thank you to advise and direct us in the premises.

Very truly yours,



Assistant Secretary

cmv/v

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**BANKERS TRUST  
COMPANY**

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16 WALL STREET  
NEW YORK

February 14th, 1925.

Mr. John J. Haskop,  
C/o General Motors Corporation,  
57th Street and Broadway,  
New York City.

Dear Sir:

✓  
Supplementing our letter of February 11th addressed to the Voting Trustees of the Fisher Body Corporation, it occurred to us that if a distribution of the free common stock in exchange for the Voting Trust certificates is to be made by us as Agent for the Voting Trustees, a formal letter of instructions and a Power of Attorney to be executed by the Voting Trustees may be of use.

We accordingly enclose a suggested form of letter and Power of Attorney for your consideration and we await your advice in the matter.

Very truly yours,

  
Assistant Secretary.

GMM:GC  
14

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224 W. 57th St.  
New York, N.Y.,  
March 16, 1925.

H. B. Watt, Assistant Secretary,  
Bankers Trust Company,  
New York City.

Dear Sir:—

As per your request of February 14th, enclosed please find letter of instructions and power of attorney authorizing the Bankers Trust Company to act as agent for the Voting Trustees of Fisher Body Corporation in effecting an exchange of Fisher Body common stock for voting trust certificates of said Corporation.

Delay in getting the papers signed was occasioned by the fact that they had to be sent to Detroit for the signature of Mr. Mendelssohn and to California for the signature of Mr. Fisher.

Very truly yours,

Chairman.

4054

Wilmington, Delaware,  
October 20, 1922.

Mr. Fred Fisher, President,  
Fisher Body Corporation,  
Detroit, Michigan.

Dear Mr. Fisher:

I note the fact that Flint Varnish & Color Works is ~~not~~ getting any substantial amount of business in paint or varnish from the Fisher Body Corporation.

In view of the stock ownership relations between Fisher Body Corporation, Flint Varnish & Color Works, General Motors Corporation and du Pont Company, it would seem that Flint Varnish & Color Works should enjoy a large part, if not all, of Fisher Body's paint and varnish business, unless there is some good reason for not having it.

I understand the situation is as follows:

Fisher Body Corporation has tested Flint products, and, in the opinion of our men, and I understand in the opinion of your men, the quality of Flint products is as good as the product you are using. Flint Varnish & Color Works is in as good position to furnish service as the party from whom you are now buying.

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Flint Varnish & Color Works prices are as low as the price of the product you have been buying. The above-mentioned stock ownership relation assures Fisher Body Corporation that its orders will be given preference by Flint over any other customer (except, of course, General Motors Corporation and its subsidiaries) whenever contract conditions

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are equal between Fisher Body Corporation and Flint's other customers.

Would it be imposing upon you to ask your assistance toward Flint securing a portion, or all, of Fisher Body Corporation's paint and varnish business? The assistance I ask is a frank statement of the respects in which the above statement of conditions is incorrect, or, if that statement is correct, statement of why Flint should not have the business, so that such reason may be overcome if it is within our power.

Yours very truly,

FLINT VARNISH & COLOR WORKS,

.....  
CHAIRMAN OF THE BOARD.

LduP/MD

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NOTE: "Return to Room 9059" is stamped at top of first page and "Return to Executive Committee Room 9069" is stamped on each page. "X-1100" and a large check mark are written at top of first page. "GMC 1560" is written at bottom of each page. "File Copy" is stamped across second page.

GENERAL MOTORS CORPORATION  
224 West 57th Street  
New York, N. Y.

OFFICE OF THE PRESIDENT

October 31, 1922.

Mr. Lamont duPont,  
DuPont Building,  
Wilmington, Del.

*Make ex cm membership  
coincident with resol.*

My dear Mr. duPont:

At the time of purchase of the controlling interest of the Fisher Body Corporation, a contract was made between the General Motors Corporation and Messrs. Fisher under which the latter agreed to remain with the joint interests until the year 1925.

General Motors Corporation owns 60% of the Fisher stock, Messrs. Fisher about 20%, interests friendly to them about 10% and the balance scattering. Recently, the Messrs. Fisher have brought up the question of their future relations with General Motors and have expressed a desire to become more intimately associated with the proposition as a whole and; with that end in view, have requested a study of relative values of General Motors and Fisher assets with a view to an exchange of Fisher Body common stock for General Motors shares.

I believe that a closer association with the Messrs. Fisher and closer cooperation between the two corporations would be of great benefit, and have proposed that Mr. Fred J. Fisher, President of the Fisher Body Corporation, now



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a Director of General Motors, be elected a member of our Executive Committee in order that he may become better acquainted with our problems and assist in the administration of the business as a whole. It would also be agreeable to the Executive Committee to have Mr. C. S. Mott elected a member of the Executive Committee, making a Committee of six, instead of four, as at present. I have already spoken with about ten of our Directors on the subject of Mr. Fisher's association with us and have obtained their approval. As I expect to talk with Mr. Fisher on the subject of our relations next week, I should like to have the opinion of members of the board on the subject of the new Executive Committee, in order that I may speak to Mr. Fisher on the subject, if the majority of the Board approve.

Very truly yours,

*P. S. du Pont*  
President.

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NOTE: "GMC 1561a" is written in lower left corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom; "RECEIVED NOV. 2 [or 3] 1922" and "ANSWERED NOV 3 1922 LAMMOT DUPONT" are stamped at top; check mark is drawn above "MOTORS" in letterhead. Italics indicate handwriting.

✓<sup>2</sup>

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November 3, 1922.

Mr. P. S. du Pont, President,  
General Motors Corporation,  
New York City, N. Y.

Dear Pierre:

I have yours of October 31st in regard to relationship between the Fisher Body Corporation and General Motors Corporation; and also the election of Mr. Mott and Mr. Fisher to the General Motors Executive Committee.

It seems to me a closer relationship between the companies is very desirable and that the addition of Messrs. Mott and Fisher to the Executive Committee would be helpful.

In order to avoid the situation of having an important official of General Motors Corporation personally interested in a controlled subsidiary, would it not be desirable to have Mr. Fisher's election to the Executive Committee co-incident with whatever arrangement is made with respect to consolidation?

Sincerely yours,

2  
VICE-PRESIDENT

LduP/MD

NOTE: "GMC 1561" is written in lower left corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom; "FILE COPY" is printed across page; check mark under handwritten figure 8 appears at top; "X-1100" is written in upper right corner.

4059

December 2, 1922.

Mr. Fred Fisher, President,  
Fisher Body Corporation,  
Detroit, Michigan.

Dear Mr. Fisher:

On October 20th I wrote you in regard to the fact that Flint Varnish & Color Works was not getting any substantial amount of business in paint or varnish from the Fisher Body Corporation. I am sorry that oversight has caused me to not take this matter up further again; for I have received no reply from you to my letter of October 20th and fear that same may have gone astray, and thus a month or more delay has been caused by my oversight.

I am enclosing copy of my previous letter.

It seems to me that this matter is of extreme importance, for I am sure that Flint Varnish & Color Works goods are the equal of, or superior to, any goods on the market, and therefore should be used by Fisher Body Corporation in any event. The close stock relationship of the companies makes it appear almost ridiculous that no business should be done between Flint and Fisher.

If you have had time to consider this matter or talk with your men about it, I would appreciate

—2—

your views. If a clearer understanding of the situation can

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be had by a personal conference, I would be glad to meet you or whoever you say when a suitable time can be arranged.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "GMC 1563" is written in lower left corner of both pages; RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped on both pages, "FILE COPY" is printed across both pages. At top center of first page is written what appears to be "Grubb Fri 12/22 vrbly" and at top right of first page what appears to be: "12/19 I J Larry Fisher reports Flint product not good."



4061

POSTAL TELEGRAPH - COMMERCIAL CABLES																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left; padding: 2px;">CLASS OF SERVICE DESIRED</th> </tr> <tr> <td style="width: 80%; padding: 2px;">FAST DAY TELEGRAM</td> <td style="width: 20%; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">DAY LETTER</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">NIGHT TELEGRAM</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">NIGHT LETTERGRAM</td> <td style="padding: 2px;"></td> </tr> <tr> <td colspan="2" style="padding: 2px; font-size: small;">                     The sender must mark on it exactly the class of service desired; otherwise the telegram will be transmitted as a fast day telegram.                 </td> </tr> </table>	CLASS OF SERVICE DESIRED		FAST DAY TELEGRAM		DAY LETTER		NIGHT TELEGRAM		NIGHT LETTERGRAM		The sender must mark on it exactly the class of service desired; otherwise the telegram will be transmitted as a fast day telegram.		<div style="text-align: center; font-size: 2em; font-weight: bold; margin-bottom: 10px;">TELEGRAM</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">RECEIVER'S NUMBER</td> </tr> <tr> <td style="padding: 2px;">CHECK</td> </tr> <tr> <td style="padding: 2px;">TIME FILED</td> </tr> <tr> <td style="padding: 2px;">STANDARD TIME</td> </tr> </table>	RECEIVER'S NUMBER	CHECK	TIME FILED	STANDARD TIME
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RECEIVER'S NUMBER																	
CHECK																	
TIME FILED																	
STANDARD TIME																	

SEND the following Telegram, subject to the terms on back hereof, which are hereby agreed to.

To MR. L. P. FISHER, Wilmington, Del., 1/5/23 1923  
 (Street and No.) GENERAL MOTORS BUILDING, RECEIVED  
 (Place) DETROIT, MICHIGAN. JAN 5 1923

WOULD LIKE TO MEET YOU AT AUTO SHOW NEW YORK  
 NEXT WEEK REGARDING PAINT. WHAT DAYS WILL YOU BE THERE  
 AND WHERE WILL YOU STOP?

L. DU PONT.

(Chg. Administrative - PAINT DEPT.)

NOTE: Stamp at upper right reads: "RECEIVED JAN 5 1923 LAMMOT DUPONT".

4062

POSTAL TELEGRAPH - COMMERCIAL CABLES

TELEGRAM

CLASS OF SERVICE DESIRED	
FAST DAY TELEGRAM	
DAY LETTER	
NIGHT TELEGRAM	
NIGHT LETTERGRAM	

The sender must state on it exactly the class of service desired. After the telegram has been transmitted it is not day telegram.

RECEIVED
CHECK
TIME PAID
STANDARD TIME

SEND the following Telegram, subject to the terms on back hereof, which are hereby agreed to.

To Mr. Lawrence P. Fisher, Wilmington, Del., 1/6/23 192  
 (Street and No.) Hotel Biltmore, RECEIVED  
 (Place) New York City, N. Y. JAN 6 1923

WILL BE IN NEW YORK MONDAY ABOUT ONE. WOULD  
LIKE TO SEE YOU REGARDING PAINT BEFORE GENERAL MOTORS  
DIRECTORS MEETING AT FOUR. IF CONVENIENT TO YOU PLEASE  
WIRE TIME AND PLACE.

L. DU PONT.

(Chg. Adminis. Paint Dept.)



NOTE: Stamp at upper right reads: "RECEIVED JAN 6 1923 LAMMOT DUPONT".

4063

POSTAL TELEGRAPH—COMMERCIAL CABLES  
TELEGRAM

DELIVERY No. 1008

RECEIVED AT  
Main Office  
8th & Shipley Sts.  
Phones 3152-3193

86 P R 538 Pm 10  
BE Newyork Jan 6-23  
L Dupont,  
Wilmington Del

Will be at General Motors offices three O'clock monday  
afternoon

L P Fisher

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NOTE: "GMC 1567" is written in lower left corner; "8" is written at top; "X-1100" is written and "RECEIVED JAN 8 1923 LAMMOT DE PONT", is stamped in upper right corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom. Written at bottom is what appears to be: "D & A BW Rise 5.42 PM Mr. L"

4064

Wilmington, Delaware,

January 5, 1923.

Mr. L. P. Fisher,  
General Motors Building,  
Detroit, Michigan.

Dear Sir:

Referring to our recent conversation in regard to Flint Varnish & Color Works products, it is my recollection that you told me that the Flint "rough stuff" color standards and rubbing varnish were not satisfactory for your purposes, and that Mr. Sohlinger in conversation with you had admitted that they were not satisfactory. I further understood that you had explained—or had had someone else explain to Mr. Sohlinger—in what respects the Flint products were not satisfactory, and that you had hopes that Mr. Sohlinger would be able to correct the troubles, as you felt it would be desirable for Fisher Body Corporation to use the Flint products whenever they were made in a satisfactory quality.

I have just had a conversation with Mr. Sohlinger today and tried to impress upon him the importance of making the Flint products satisfactory. It is important to us not only in order to acquire and keep the Fisher business, but in order to put us in position to furnish the best qual-

—2—

ity to our other principal customer; namely; General Motors Corporation.

I was astonished to have Mr. Sohlinger tell me that he had never had any complaint from your men on any



4055

"rough stuff;" that the only complaint he had ever had on colors not being properly standardized was with respect to the color used on Buick closed jobs not matching; that in this case investigation showed that Flint color was not used and that he had never been allowed to see the results of tests of rubbing varnish to determine what was the cause if the Flint product did not hold up.

In our conversation I asked Mr. Sohlinger if he would not call on you again and go into this matter further; for, as you know, I feel that it is of the very greatest importance that we should straighten out all difficulties with the Flint products and have them used throughout by Fisher Body Company.

Trusting that you will look upon this matter in the same light that I do, and that you will not fail to let me know if there appears to be any laxity on the part of the Flint men in meeting your requirements, I am

Yours very truly,

CHAIRMAN OF THE BOARD.

LduP/MD

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NOTE: GMC 1565 is written in lower left of each page; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped on each page; "FILE COPY" is printed across each page.

4066

January 27, 1923.

Mr. H. H. Rice, General Manager,  
Cadillac Motor Car Co.,  
Detroit, Michigan.

Dear Sir:

I have been discussing with Mr. Grubb, in charge of our Paint & Varnish Department, the matter of supplying Cadillac with paint and varnish. Mr. Grubb tells me that his information indicates that Cadillac is using on its open cars imported English varnish (which the manufacturer claims has been aged for four years), and that the closed bodies are being supplied by Fisher Body Corporation and are finished with the same goods that Fisher is using on other work.

If the Flint Varnish & Color Works can manufacture as good, or better, varnish than you are using, we would like to have an opportunity to do so. It surely seems improbable that, in view of the great increase in automobile production in the last few years, any varnish imported from England can be aged four years, and personally I doubt whether such ageing has any material effect on the product.

Would it be asking too much for you to have someone advise me what varnish you are using and what the claims of the manufacturer are with respect to it? and also price of the varnish

Yours very truly,

VICE-PRESIDENT.

LduP/MD

NOTE: "Return to Executive Committee Room 9069" is stamped in left margin and "GMC 1571" is written at bottom of page.

4067

January 31, 1923.

Copy: Mr. Hunter Grubb, G. M.  
Mr. Lawrence P. Fisher,  
Fisher Body Corporation,  
Detroit, Michigan.

Dear Sir:

At the time of the conversation between Mr. Sohlinger, you and myself in New York City, you stated that you expected the new Flint plant to start up on January 29th. I had expected that we would receive some orders for Flint varnish before that date, and through Mr. Grubb have made some inquiries and learn from Mr. Sohlinger that you do not expect to start now before the first of March. I hope that by that date you will be running and will be having satisfaction with the Flint Varnish & Color Works product.

Thanking you again for the trial of these products which you promised, I am

Yours very truly,

LduP/MD

VICE-PRESIDENT.

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NOTE: "GMC 1573" is written in lower left corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom of page; check mark appears at top of page, "X-1100" is written in upper right corner.

4068

CADILLAC MOTOR CAR COMPANY  
DETROIT, MICHIGAN

OFFICE OF THE PRESIDENT

January  
Twenty-ninth  
1923

Mr. Lamot duPont,  
E. I. duPont deNemours & Company, Inc.,  
Wilmington, Delaware.

Dear Mr. duPont:

Probably paint trouble has been one of the most annoying difficulties since the automobile began to be used extensively.

We have advanced a great deal since the time when I was first building bodies, but still paint is a source of much complaint from customers, particularly because it is something they see and is ever present.

We all know that paint is much abused, and paint failure is due, in 90% of the cases, to the treatment it gets, rather than to defective work or materials. Still, for this very reason, and because it takes time to test paint, it is something about which we always want to move with great caution.

As to the Flint paints, perhaps you do not know that we are already using their primer. We are starting to use their color and finish varnishes on our chasses, and will probably use them more extensively as soon as the present stocks are exhausted.

The enamel so far has not passed our test and we are not satisfied to make a change yet.

1787



We have samples of the body varnishes which have been put on panels and are being tested on our roof. As you know, some use of the Duco looks promising.

We are using at the present time the following varnishes:

Valentine for rubbing and color.

Valentine and Harland mixed for finish.

—2—

While our experience with all our paint materials has been good, it never will be satisfactory until we can get a more durable finish and one that will resist the abuse customers are wont to give it. For that reason we are very glad of the paint inquiry which is being made through the Research Laboratory and on which committee we are represented.

Thanking you for your inquiry, I am

Very truly yours,

*H H Rice*

HHR:V

NOTE: The underscoring on first page is by hand. "Received Jan 31 1923 Lammot du Pont" and "Answered Feb 8 1923 Lammot du Pont" are stamped at top of first page and "Return to Executive Committee Room 9069" is stamped on each page. "HG" is written at top of first page. In the left margin next to the fifth paragraph of the letter, "X" has been marked by hand the words "what one" are written, and in the right margin next to the same paragraph there is a hand drawn bracket and the handwritten words "What enamel". "GMC 1572" is written at bottom of each page. Italics indicate handwriting.

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E

4070

February 5, 1923.

Mr. H. H. Rice, General Manager,  
Cadillac Division,  
Detroit, Michigan.

Dear Mr. Rice:

Yours of January 29th, in regard to paint and varnish received, and I thank you for same. The Flint Varnish & Color Works is making very earnest efforts to turn out the very highest quality product from the consumers' point of view, and sincerely believe that it is now doing so. I want to do everything possible to aid them, and it is very pleasing to note what you say in regard to the prospect of using Flint primer color and finish on chassis.

You state that "the enamel" so far has not passed your test and you are not satisfied to make a change. I hope that the failure and your dissatisfaction was clearly made known to the Flint Company representative; for I find, on inquiry at the Wilmington Office, that they are not aware of any difficulty on fender enamel, which we suppose is the enamel you refer to.

We are all in hopes that "Duco" will turn out as it now promises, but for the present, at least, the Flint Company is working on the assumption that "Duco" is not the finish of the future and are trying to do the very

1789

4071

—2—

best possible with regular varnish.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "File Copy" is printed across each page and "Return to Executive Committee Room 9069" is stamped on each page. "GMC 1574" is written at bottom of each page.

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1790



4072

# CADILLAC MOTOR CAR COMPANY

DETROIT, MICHIGAN

Mar. 29, 1923.

RECEIVED  
MAR 31 1923  
LAMMOT DUPONT

Mr. Lammot DuPont,  
c/o E. I. Du Pont de Nemour & Co.,  
Wilmington, Del.

Dear Mr. DuPont:

I have your letter addressed to Mr. Rice  
who at the present time is out of town.

*not so*  
*out of use  
to change*  
In regard to enamel will state that we  
have been playing along with enamel from Flint for some time.  
They have made several changes and tried to conform to what  
we want. We are working on this diligently and I think in  
the very near future they will be able to give us something  
that will answer our purpose. After we have arrived at  
this point, of course we would want to give this particular  
material our regular roof tests covering a period of seven  
or eight months, to see that the enamel would stand up.  
To date they have not been able to give us enamel which  
when applied looks as brilliant and as satisfactory as the  
enamel we have been using, but as stated above we are work-  
ing together and we hope in the near future they will be  
able to give us this product which will be satisfactory.

*are not  
working  
at all*

Very truly yours,

CADILLAC MOTOR CAR COMPANY.

*Standard*  
*ATW/s*  
*4-5*  
*John Duman*  
Manager of Manufacturing.

NOTE: Stamp at upper right bears date, "MAR 31 1923".

1791



4073

May 5, 1923.

Copy: Mr. H. Grubb, G. M.

Cadillac Motor Car Co.,  
Detroit, Michigan.

Atten. Mr. Widman.

Dear Sir:

Some weeks ago I had some correspondence with Mr. Rice in regard to the use of Flint paint and varnish products on Cadillac cars. As a result of it, Mr. Sohlinger called on you and discussed the matter. After leaving, Mr. Sohlinger wrote of his interview and stated that you had made a memorandum to write me further on the subject. This was on April 12th, but I have heard nothing from you.

We believe that Flint is making as good quality paint and varnish products as any competitor, and, in many cases, better quality. I feel that it is to the advantage of both General Motors Corporation and the du Pont Company to have GMC use the Flint products 100 per cent. If our idea of the Flint quality is wrong with respect to any item, we desire to know it and ascertain the reason, and can assure that anything you can do in the way of reporting your difficulties or objections to the Flint products will

-2-

be a very great help to us.

4074

Won't you drop me a line, giving us a summary of the present situation?

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "File Copy" is printed across first page and "Return to Executive Committee Room 9069" is stamped in left margin of first page. "X-1100" and "8" (with a large check mark) are written at top of first page. "GMC 1589" is written at bottom of each page.

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E

1793

4075

Letterhead of  
CADILLAC MOTOR CAR COMPANY

DETROIT, MICHIGAN

May 21, 1923.

Mr. Lamont DuPont,  
c/o E. I. DuPont de Nemours & Co.,  
Wilmington, Del.

Dear Mr. DuPont:—

In reply to your letter of the 5th in regard to going entirely to Flint Varnish Company's material, would state that Cadillac feels that it is absolutely necessary to move very slowly. I don't mean to move slowly in the point of investigation, but to make very long investigations and tests because we cannot afford to take any chances whatever in the matter of our paint.

This is a troublesome thing at best, and it is most difficult when we have paint failure, to determine whether it is the fault of the painter, the material, the surface or its preparation.

Of course, we are not only friendly toward the Flint products, but anxious to use them. However, we feel we should go most cautiously in any change in paint, adopting new things only after long trial.

The next time he sees you Mr. Rice says he will discuss this subject with you. We do, however, expect to gradually

4076

from time to time, as the Flint material proves out, to adopt it on Cadillac cars.

Very truly yours,

CADILLAC MOTOR CAR COMPANY

*S. W. Widman*

Manager of Manufacturing.

SWW/s

Mr. Hunter Grubb, G. M.

Please note and return.

L. du Pont.

5/26/23

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NOTE: "Received May 24 1923 Lammot du Pont", "Answered May 26 1923 Lammot du Pont" and "Noted May 28 1923 A.S." are stamped at top of page. "Return to Executive Committee Room 9069" is stamped at bottom of page and in left margin. "X-1100", "8" and "noted H.G." are written at top of page. A check mark appears in front of Mr. Grubb's name at bottom of page. "GMC 1591" is written at bottom of page. Italics indicate hand-writing.



4077

May 26, 1923.

Mr. W. S. Widman,  
Cadillac Motor Car Co.,  
Detroit, Michigan.

Dear Sir: I have yours May 21st in regard to use of Flint paint and varnish on Cadillac cars, and thank you very much for the attention you have given this subject. I think we are entirely in accord, and we will look forward to a time when the Flint products have proved their value to you.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "Return to Executive Committee Room 9069" is stamped at bottom and "X-1100" and "8" (with a large check mark) are written at top of page. "GMC 1592" is written at bottom of page.

4078

Copy: Mr. W. P. Allen, G. M.,  
Fabrikoid Dept.

February 25, 1923.

Mr. L. P. Fisher,  
Detroit, Michigan.

Dear Sir:

Mr. Raskob has sent me your letter of February 16th in regard to Fabrikoid. I have only had time to make a preliminary inquiry, but find that our Fabrikoid Department is working actively on your problem.

I appreciate very much the manner in which you have taken this up, and can assure you that we will do the very best we can to meet your requirements in every respect, as we greatly desire your business.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "GMC 1575" is written in lower left corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom of page; "FILE COPY" is printed across page.

1797

4079

E. I. DU PONT DE NEMOURS & COMPANY  
(Incorporated)  
WILMINGTON, DELAWARE

CELLULOSE PRODUCT DEPARTMENT

March 9, 1923.

LAMMOT DU PONT, VICE-PRESIDENT:

Fisher Body

Referring to your letter of February 25th to Mr. L. P. Fisher, which was in answer to Mr. Fisher's letter of February 16th to Mr. J. J. Raskob, you will perhaps be interested to know that our Mr. H. J. Haon was working at the Fisher Body plant in Detroit at the time your letter was written.

I have explained to the Executive Committee, and in fact have covered the matter in our monthly reports, that the Textileather Company, who have enjoyed Fisher Body business for a number of years, were several steps ahead of us and other artificial leather manufacturers in having developed a method of graining artificial leather by the roller process without injury to the film. This has been an old problem with us and a great deal of work has been done on it within the past few years. We finally solved it by having a steel roller hand engraved with a modification of our regular line grain. It took about four months to get this roller made, and it was delivered to us about one month ago. The material which it turns out is satisfactory and equal in all respects to that made by the Textileather Company. I was

4080

advised yesterday by wire that Mr. Haon has secured a trial order of 50,000 yards from the Fisher Body Corporation, and I am hopeful that with this beginning we will be able to secure a large share of this business.

W. P. ALLEN.

*W. P. A.*

WPA/IRB:

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NOTE: "GMC 1579" is written in lower left corner; letterhead of E. I. du Pont de Nemours & Company, Chronicle Building, San Francisco, Cal., Sales Department appears in upper left corner overprinted with "XX"; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom of page; "RECEIVED MAR. 10, 1923 LAMMOT DU FONT" is stamped at top; "Fisher 3/10" is written at top. *Italics indicates handwriting.*



4081

March 10, 1923.

Mr. L. P. Fisher,  
Fisher Body Corporation,  
Detroit, Michigan.

Dear Mr. Fisher:

Referring further to the matter of line grain Fabrikoid, about which you wrote me recently, I am very much pleased to learn from Mr. Allen, General Manager of our Fabrikoid Department, that you have been kind enough to give us a trial order of 50,000 yards of the material which we have just placed ourselves in position to turn out. I trust that the material will be satisfactory, and assure you that, if for any reason it is not, we will continue our efforts to produce a product which will meet your requirements.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

NOTE: "GMC 1580" is written in lower left corner; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom; check mark appears at top; "X-1100" is written in upper right corner of page.

1800

4082

## GENERAL MOTORS CORPORATION

Excerpts from Minutes of Meeting No. 18 of Interdivisional Relations Committee—General Purchasing Committee held February 6, 1925

Duco.

Attention was called to the use by Fisher Body Corporation of a pyroxylin finish manufactured by Forbes Varnish Company. The very complex nature of pyroxylin compounds was described and the experience required for the production of stable and durable compounds emphasized. The Forbes product has not been put through the exhaustive durability tests that Duco has been subjected to. It is known that the durability of such finishes can be determined only by long time exposure tests. It was agreed that General Motors Research be requested to begin durability tests of pyroxylin finishes manufactured by—

- Acme White Lead & Color Works
- Beckwith-Chandler Company
- Forbes Varnish Company
- Murphy Varnish Company
- Patton Pitcairn Div. of Pittsburgh Plate Glass Co.
- Valentine Varnish Company
- The Zapon Company

Our contract with the DuPont Company covers supplying Duco for production uses only. Question was raised by Cadillac regarding availability of these prices on purchases for branches for repaint work. Report of practices of other companies supplying similar class of materials will be made at the next meeting.

1801

At the foregoing meeting, held at Detroit, Michigan, on February 6, 1925, at 9:00 a.m., the minutes disclose that the meeting was called to order by Mr. Pratt and that the minutes were recorded by James Lynah, Executive Secretary.

There is no statement in the minutes as to the names of the persons present. An examination of the minutes does not give any information as to any other persons present.

4084

EXCERPTS—

July 24, 1925

To: EXECUTIVE COMMITTEE

From: PAINT, LACQUER & CHEMICALS DEPARTMENT

MONTHLY REPORT—JUNE, 1925—PAINT,  
LACQUER & CHEMICALS DEPARTMENT

July 20, 1925

Mr. W. P. Allen,  
General Manager:

Chemical Products Division  
Executive Committee Report—June, 1925

Eliminated  
4 2052

GMC-1054



ceptable to the furniture manufacturer who had to apply it. In planning the duPont furniture lacquer the ultimate consumer was mostly in mind, and while there is no question but what the duPont furniture Duco was more durable and gave better value to the consumer, we were handicapped in merchandizing it to the furniture manufacturer because of its greater expense to him; it cost the furniture manufacturer more labor to rub; it required the application of heavier coats (or more coats) to produce the required depth of finish; and it was a more expensive formula for Parlin to manufacture in the first place. It has recently been concluded, therefore, to revise the formula of "clear Duco for furniture, and Parlin is now offering a product which is the equal of the Glidden lacquer and which can be marketed at their price and show a very satisfactory margin.

Mr. Moosmann is due to land in London on Monday, July 27th, to complete negotiations with the Nobel Company for the formation of a subsidiary company to manufacture Duco in England to supply the British Empire, except Canada. Mr. Moosmann will take the occasion also to investigate the possibilities of manufacturing Duco or having it manufactured in the other European countries.

The negotiation of a contract for supplying Duco to all General Motors units on a sliding scale price, based on quantity discounts, was originally on the basis of a period of one year, ending June 1926, but they have recently asked us to agree to a period of six months only. While this is not as satisfactory it has been thought best to acquiesce in it.

Parlin is just about completing an important step in the manufacture of Duco in changing the grinding from peb-

because of an almost universal change to the new colors for 1926 models, our automobile customers, many of whom are now in production on these models, allowed their stocks of the older colors to run out completely. This accounts for our lower sales in June, and also means that our customers are without very heavy stocks and must purchase in relatively large amounts as soon as the new production is well under way. The trend toward a greater variety of colors and the use of two and three color schemes on many of the new models means that we shall be called upon to produce a much greater variety of colors than has been the case in the past. We expect Flint sales in July to be approximately the same as June.

It has been decided to make a radical change in our policy on automobile refinishing, and to permit our shops to use Duco over old paint instead of requiring the complete removal of the old finish as has been our standard practice. This decision has been arrived at for two major reasons: First, our refinishers have been complaining constantly that they were losing business to other lacquer shops who were doing this work with competitive lacquers and in most cases telling their customers that they were using Duco, so that in the event of failure Duco was blamed in any case, so we are losing the business without safe guarding our reputation.

In addition to this, and in connection with a new General Motors contract which is mentioned below, we have been compelled to permit General Motors to furnish Duco to its direct factory branches for use in reconditioning second hand cars. This will always be done over the old finish, and it was felt that it would be unfair to our other refinishers

to prevent them from following this practice while permitting the General Motors shops to do so.

In our announcement to the trade on this change in policy which is just going out now, we are describing the safest plan we know for this work, and recommending to them that they have a clear understanding with their customers that such work is not standard Duco fin-

#### CP-5

ish and cannot be guaranteed.

We are negotiating a one-year's contract dating from July 1st with General Motors which will cover the entire requirements of the General Motors units for pyroxylin finishes and a minimum of 50% of Fisher Body requirements. The Committee has approved an extension of the discount scale which has been in force this year, and by purchasing maximum amounts during any given quarter General Motors may gain up to 12% discount from the present standard price. It is hoped that, since almost all of the Fisher Body business must be included if General Motors as well as Fisher is to obtain this maximum discount, that this will prove such a strong inducement for Fisher to give us this business that competition for Fisher business will be greatly lessened.

To increase the sales of No. 7 Polish a new and more liberal scale of discounts was put in force during the month; and arrangements made to sell this through other divisions as well as Chemical Products and Paint.

Early in July our main sales office for automotive products which has been at Flint was moved to the General Motors Building in Detroit. This is a more central location, and it is expected that our work can be carried on more efficiently in our new headquarters.

The training in Duco manufacture of the superintendent of the Necol Factory in England has been completed, and he has returned to England accompanied by a representative of this Division who is to negotiate final contract with the Nobel interests and details incidental toward formation of the new english Duco Company. There seems to be little hope that we can use the Duco name in England, because it has already been trade marked and used for many years by Brown Brothers, manufacturers of automobile accessories.

#### FAB-2

continuing firmness in export sales. Of the \$8 800 profit, \$6 500 is yielded by export trade, and \$2 300 by domestic.

#### OUTLOOK:

Newburg earnings for July should at least approximate the June level. Billings will be considerably higher but will contain a large proportion of the light sheeting qualities, on which the margin of profit is narrow. Also, there will be a further substantial charge to reclamation for defective deck material of 1924 manufacture. Fairfield's volume of sales will be substantially larger than for June, but profits will be adversely affected by the extreme high and rapid advance in the rubber market.

#### NEWBURGH BRANCH:

Sales. June billings for Newburgh, with comparative past figures, were as follows:

	June	May	Jan-June 1925	Jan-June 1924
General Motors	\$ 60 268.	98 646.	472 521.	728 554.
Domestic; Excl.				
G.M. & Tontine	232 776.	246 355.	1 649 888.	1 503 215.
Tontine	48 865.	69 929.	308 035.	144 226.
Export	91 678.	97 488.	497 663.	341 999.
TOTAL	433 587.	512 418.	2 928 109.	2 717 994.



June billings were 9% less than forecast. This was due in part to a change by Chevrolet from black to dark gray upholstery, resulting in some interruption of our shipments, and in part also to congestion on the plant, resulting in numerous delayed shipments.

### FAB-3

Business Booked in June amounted to 1 278 551 yards, against 658 000 yards in May. The increase is mainly attributable to large bookings from Chevrolet, Fisher Body and Hartmann Trunk Co.

Prices and Competition. In the artificial leather field, the general competitive situation continues fairly satisfactory. Trade resistance to the new quantity discount policy appears to have about disappeared. Aside from this general statement, there are no special new developments worth reporting.

Trend of Business. The normal summer decline in sales has thus far largely failed to materialize, and the near future outlook for Newburgh is favorable. Our automobile business has been very good, owing especially to the unexpected volume of the bookings by Chevrolet. In bookbinding, business has been very good in the middle west, and substantial improvement in the east is expected in the fall. The outlook in the trunk and case covering field is favorable, as is also the case in the novelty field, corresponding with the general healthy condition of retail business. In short, our present expectation is for satisfactory volume over the remainder of the year.

Export. In the export field, the outlook for volume continues promising altho on the more general and active com-

petition it appears probable that prices will have to be figured closer than over the first six months of the year. Production in the French Fabrikoid plant is now scheduled to begin about October first. This, of course, will result in the loss to us of the French business, with some offset thru the profits expected from the new enterprise. However, some foot-hold is being secured in Great Britain, and present indications justify the hope of our doing some business also in Germany.

#### FAB-4

Sales of Special Significance. In June, the Hartmann Trunk Co. released 140 000 yards; all, however, of the cheap sheeting type. During the month also 60 000 yards of sheeting qualities were sold to Morris White, of New York, for pocket-book linings. In June, we booked 25 000 yards of material for closed car curtains. Thus far we have been unsuccessful in selling Fisher Body on this item, owing apparently to price considerations; but during June Fisher Body placed various orders with us for a total of approximately 40 000 yards of Fabrikoid. Included in our export bookings was an order for 15 000 yards of upholstery material for use on the Fiat car.

Complaints. In June, 63 complaints were received on Newburgh products against 72 in May, with a total of only 22 complaints unadjusted at the end of the month against 36 for the month preceding. On the 77 Newburgh complaints adjusted during the month, the total estimated loss is roundly \$7 700.

Production. Production in June was roundly 701 000 stads, against 782 000 stads in May.

Solvent Recovery. Total plant recovery for June, including both activated carbon and the old type machines, was 53.1%, against 64.8% for May. Substantial losses have resulted from delays in our receipt of the necessary fans and coolers for reforming our activated carbon system; and the ill-effects of these delays, both in reduced recovery and some slowing up of production, will continue to be apparent in our July report. At this writing, however, most of the replacement units are on the plant and installed or in course of installation; and prompt relief from the adverse conditions of the past six or eight weeks is expected.

~~EAB-7~~

Pyro consumed during June was roundly 92 000 lbs. In addition about 1 100 lbs. were shipped to Canadian Fabrikoid.

FAIRFIELD BRANCH:

Sales. Fairfield billings for June, with comparative past figures, were as follows:

	June	May	Jan-June 1925	Jan-June 1924
General Motors	\$ 86 598.	14 001.	132 126.	619 574.
Domestic, Excl.				
G.M. & Ventube	87 168.	42 609.	533 094.	668 398.
Ventube	10 169.	27 577.	88 908.	60 229.
Export	71 191.	73 619.	350 800.	155 387.
TOTAL	255 126.	157 806.	1 105 928.	1 503 588.

Fairfield's June billings show an increase of 60% over May and 10% over forecast. This is principally due to the Chevrolet contract, which was supposed to cover July, August and September, but under which a considerable volume of releases was given us in June.

For the first six months of 1925, our Fairfield sales were 27% lower than for the first half of 1924. This was due entirely to our lack of the Chevrolet and Buick business over the first half of this year. This, it will be recalled, we had the opportunity of taking at competitive prices, but refused to book on an unprofitable basis. Against the loss of volume and consequent impairment of current profits resulting from this refusal, we feel there is a substantial offset in the form of a somewhat improved general tone of the market in which we must operate.

Business Booked in June amounted to 670 000 yards, against 315 000 yards booked in May.

Trend of Business. Fairfield's June billings are larger than for any month since last November, owing chiefly to large orders

#### FAB-8

from Chevrolet and from Holden Body Co., of Australia. The present abnormally high prices of rubber will, of course, retard sales as well as restrict profits, particularly in the new Specialty line. Apart from this obstacle, the further development of which it is difficult to foresee, the prospects for the Fairfield plant appear favorable.

Sales of Special Significance. In June, an order was secured from Maxwell Motors for 6 500 yards of a special whipcord; and every effort is being made to use this footing for getting a larger share of their business. Both Chevrolet and Buick have abandoned drills for whipcord in their top material for open models; and a general trend to this fabric appears to be in progress.



4093

Prices and Competition. On July 15, prices on the standard Fairfield line were increased about 7% to take care of the advance in rubber; and similar advances are being made at frequent intervals in our quotations on Specialties. In the automobile field, the general price situation continues much less satisfactory on rubber-coated than on pyroxylin-coated products. One recent Fisher Body order of 100 000 yards has been lost to Chase, and another of the same size is believed to have been lost to Haartz on prices. With respect to Fisher Body's rubber business, we have some very slight encouragement through the receipt of the recent very small order for less than 2 000 yards of double texture material for use on the open Cadillac bodies which they are now building.

Complaints. A total of 13 complaints on Fairfield products was received during June, including none believed to be of any very serious nature.

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NOTE: "gm-1054" is written in lower right corner of each page of excerpts; "PAINT LACQUERS & CHEMICALS DEPT. RECEIVED JUL 24 1925" is stamped at bottom of last 5 pages. Stamped at bottoms of successive pages of the excerpts are the numbers "4", "15", "16", "35", "36", "37", "40" and "41". Lines in left margins on pages FAB-4, FAB-7 and FAB-8 are by hand; next to handdrawn line on page FAB-7 is written: "Last Half?"



E. I. DU PONT DE NEMOURS & COMPANY

DYESTUFFS DEPARTMENT  
WILMINGTON, DELAWARE

4094

March 22nd, 1924.

Personal & Confidential

Mr. J. L. Pratt, V.P.,  
General Motors Corporation,  
224 W. 57th Street,  
New York, N. Y.

My dear Jack:-

The last two times I have been in New York I have tried to see you, but found that you were still on your vacation in the South. I would have liked very much to have been with you, for I am sure you must have had a very fine time.

What I wanted to see you about was to ask your advice on a particular subject, so I am writing you now so that I may get your advice anyhow. I have noticed considerable trouble with fading of the upholstery in my Cadillac closed car. I was wondering if you would think it possible for us to offer service to the Fisher Body people as to dyes to be used in making their upholstery which would be fast, and whether, if we could offer such service, the Fisher Body people would specify the type of dyes to be used, - not necessarily ours. Of course, if we could get them to specify ours we would be delighted, but I realize that would be difficult. This business should be very large and I do not believe we are enjoying a very large quantity of it at the present time.

I realize this is a delicate subject and one on which I would like to have your advice as to whether it is an angle which we could approach at all, and if it is, what is the proper method of approach.

Thanking you for your advice, I remain,

Sincerely yours,

WPH-M

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CONFIDENTIAL

March 26, 1924.

Mr. W. F. Harrington,  
Dyestuffs Department,  
E. I. duPont de Nemours & Co.,  
Wilmington, Delaware.

Dear Buck:

Yours of the 22nd inst., in regard to the  
upholstery in your Cadillac closed car, received.

As you have probably sensed, the Fisher Body  
outfit is pretty difficult to deal with and I hardly  
know how to advise you to approach them on this subject.

I am expecting to be in Detroit next week and  
if Fred Fisher is back from California I will try to feel  
him out on this subject and may be able to get some leads that  
would indicate whether or not it is possible for you to work  
along the lines you have in mind. I will advise you when I  
have been able to develop anything.

Very truly yours,

Vice President.

JLP:V

Note: Stamp at lower right contains initials "A.P.S.", "J.L.P." and "E. I. duPont".  
Above the stamp, handwritten illegible figures appear partly obliterated. The only  
writing at top is "Fisher Body".

1814

4096

August 6, 1923.

Messrs. P.S. duPont

J.J. Raskob

~~G.S. Kett~~ C. S. M.

Fred J. Fisher

FOR INFORMATION ONLY

The General Purchase Committee met in Detroit last week and we spent from two o'clock in the afternoon until nearly seven in the evening discussing some very important matters, all of which I believe were constructive. I personally left the meeting very enthusiastic about the way the thing was developing: primarily the economies that are being effected by this particular thing which in the end is going to aggregate a very large sum and secondarily, the splendid atmosphere that is developing among those contributing to this work in the line of working for General Motors Corporation.

There was brought up at the meeting, and the object of this memorandum is to advise you of same, the fact that certain of our Purchasing Agents were not playing fair and for your information permit me to say that each Purchasing Agent is asked to develop the best picture he can as to his requirements of anything in which concerted buying is thought to be productive of a more effective result. Having presented his picture we then do better if we can and in the event that a general contract is made, we expect the Purchasing Agent to support the general contract. It has come to



the attention of various members of the Committee that certain Purchasing Agents after receiving the general contract, the terms of which are perhaps more favorable than they themselves have been able to obtain, deal with the disappointed supplier and buy independently on a lower basis. Manifestly, such a procedure simply nullifies any action that the Committee may take for if a supplier knows that after making a bid to the Committee it can always deal with the Divisions individually on the lowest bid plus a small discount, naturally the Committee might just as well go out of business.

I presented this picture to the Operations Committee at which all the Car Division Managers were present, and they agreed with me that it was not a constructive way to do it and that it was not fair to the Committee. Therefore, following this as Chairman of the Committee I wrote to the Purchasing Agents of all Divisions and told them that they were not to be permitted to purchase outside of the General Purchase Committee's contracts and indicated that anything of that kind that was done would certainly have the disapproval of the Corporation and in a way would not be tolerated.

—2—

In view of the fact that this is the first time any Committee or even Mr. Mott or myself have laid down a definite policy or, in other words, has taken away from any Division any of its prerogatives; I want you to know all about why we did it and what support we asked before it was done for it is very likely that there may be some flare-backs from it which if not understood would lead to the belief that we have taken an arbitrary position.

I am thoroughly convinced that there is tremendous economy to the Corporation in handling matters pertaining to all the Divisions in the manner we are handling purchasing. I want it distinctly understood by everybody that neither Mr. Mott nor myself nor any Central Office authority or any part of the staff is taking any position whatsoever in this matter. It is to be clearly understood that the Divisions themselves through their appointees acting solely on and in behalf of themselves and in no sense in the interest of the central organization, are taking a position which in their judgment is ~~constructive and to the benefit of~~ the stockholders of General Motors Corporation.

I want to make this perfectly plain because this is the beginning of many activities of similar nature and unless the policy that I am developing is reversed by the Executive Committee these Committees representing the functional activities of the Divisions and with the full support of the Divisions will take positions in the interest of the Corporation which some Divisions may consider more or less arbitrary.

I think that the time has come when we have got to take a little stronger position of capitalizing the advantages of General Motors Corporation. I will assure you and will take full responsibility that it will have the support of the most important and most capable Divisions and the best men in those Divisions. I can not say that it will have the support of everyone because there are always people in a big organization that will take advantage of a situation for their individual profit or the profit of their particular Operation as against the whole simply because they do not always

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understand the picture and perhaps they think that it is a  
very shrewd piece of business.

Very truly yours,

A.P.S.Jr./K

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1818

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MEMORANDUM.

MESSRS. P. S. DU PONT  
J. J. RASKOB

At the last meeting of the Finance Committee the question of purchases by General Motors from du Pont was mentioned and I gathered that you were somewhat surprised at the statement that General Motors was not buying anywhere near all of their requirements of products, which du Pont makes, from the du Pont Company. I asked Mr. Allen to prepare a statement of those things which du Pont makes and which General Motors buys from du Pont competitors, and enclose herewith a letter from Mr. Allen which gives these figures in some detail.

L. DU PONT.

Jan. 27, 1927.

LduP/MD

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NOTE: Handwritten "GMC-Products—Supplies and Materials—du Pont, E. I. de Nemours & Co." appear across top of page.



Letterhead of  
**E. I. DU PONT DE NEMOURS & COMPANY**  
 (Incorporated)  
 PAINT, LACQUER & CHEMICALS DEPARTMENT  
 WILMINGTON, DELAWARE

January 25, 1927.

MR. LAMMOT DU PONT, PRESIDENT.

SALES TO GENERAL MOTORS AND FISHER BODY

In response to your verbal request for a statement of the volume of business on products of this Department that are consumed by General Motors and Fisher Body, but which was not enjoyed by the du Pont Company for the year 1926, this is estimated to have amounted to a total of \$5,339,500, made up as follows:—

FABRIKOID DIVISION

	Fabrikoid	Rubber	Total
G. M. Truck.....	\$ —	\$ —	\$ —
Oakland .....	—	90,000	90,000
Olds Motor .....	—	13,000	13,000
Buick .....	—	106,000	106,000
Chevrolet .....	—	—	—
Cadillac .....	—	—	—
Yellow Truck .....	45,000	53,000	98,000
Fisher — Ohio.....	1,100,000	350,000	1,450,000
Fisher — Detroit....	500,000	70,000	570,000
	<hr/>	<hr/>	<hr/>
TOTAL			
FABRIKOID DIV...	\$1,645,000	\$682,000	\$2,327,000
	<hr/>	<hr/>	<hr/>

CHEMICAL PRODUCTS DIVISION (Parlin)

Fisher Body Primer .....	\$ 28,500
Fisher Body Surfacer .....	1,371,750
Fisher Body Miscellaneous, ground coats, slush coats, etc.....	185,000
Fisher Body — Black Duco .....	1,099,500
Fisher Body — Thinner used with Black Duco placed with competitors.....	327,750
<hr/>	
TOTAL CHEMICAL PRODUCTS DIV.....	\$3,012,500
<hr/>	

The above figures for Parlin do not mention General Motors <sup>car</sup> Units. The reason for this is that Buick, Chevrolet and Olds purchased practically 100% of their requirements, so that Oakland was the only Unit who purchased anything worth while from competitors. This was mostly on Undercoaters and amounted to approximately \$100,000 for the year 1926.

When we were discussing with the General Motors Purchasing Committee in the middle of last year the question of granting them a super discount as an inducement to place with the du Pont Company more of the General Motors business, they admitted that for the year up to that time General Motors and Fisher Body Company had bought a total of \$12,000,000 worth of materials made by the du Pont Company, of which \$8,000,000 had been placed with us and 4,000,000 with competitors.

During the last half of 1926 Fisher Body placed the greater portion of their Rubber business with Fairfield so that the above figure of \$5,339,500 would be reduced approximately half a million dollars as a result of this change during the last half of 1926.

W. P. ALLEN.

/s/ W. P. A.

Year in this case means "12 months ending June 30, 1926."

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NOTE. At top of first page appears handwritten notation:

"Copy Mr. P. S. duPont"

"Mr. J.J. Raskob"

Also at top of first page is stamp "Received Jan. 27, 1927 Lamot duPont." In next to last paragraph word "year" has been circled in pencil and an arrow drawn to sentence which appears after signature. Italics indicate pencil insertion.

Underscore on first page is by hand.

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# GENERAL MOTORS CORPORATION

## MINUTES OF MEETINGS OF INTERDIVISIONAL RELATIONS COMMITTEES

### STANDING SUB-COMMITTEE

## GENERAL PURCHASING COMMITTEE

(State above, name of Committee)

29th Meeting Held at Detroit, Michigan.  
On Thursday, August 12, 1926.  
At 10:00 A. M.

CONFIDENTIAL

Present : Messrs : G.G.Allen      Messrs : C.O.Miller  
                 D.F.Hulgrave          D.P.O'Keefe  
                 James Lynah

Meeting called to order by Mr. Allen.

### 1. General Matters:

(a) Report of Sub-committee on Office Furniture.

After analysis and comparison of general contract proposals on office furniture submitted by the leading distributors of such items, the Subcommittee recommended that a general contract for General Motors requirements of such office furniture and equipment as supplied by Shaw-Walker Company be awarded to that company for period of one year from Sept. 1, 1926. Contract authorized. The committee records the



fact that participation in this contract by all divisions, branches, and other units of the Corporation will lead to substantial economies not only because the net prices are very low, but because there is a cumulative quantity discount provision in the contract.

Secretary was instructed to address a letter to the Purchasing Agents of all divisions urging their support and participation in this contract.

(b) Summary of Lists of Sources of Machinery and Equipment.

Secretary submitted lists supplied by Car Divisions showing sources of machinery and equipment from whom purchases, by individual divisions, for the year 1925 exceeded \$5,000.00, for the purpose of selecting several companies with whom negotiations for supplying equipment on contracts with sliding scale of quantity discounts on total volume of business placed might be carried out.

The committee will determine from the results of these negotiations whether to extend the development of such proposals. The companies designated to be dealt with are—

The Fellows Gear Shaper Company  
Cincinnati Milling Machine Company  
Landis Tool Company  
Norton Company  
Potter and Johnson Machine Company

(c) Disposition of Penalty under Evans-Winter Hebb Inc. Printing Contract. Under the print-

ing contract with Evans-Winter Hebb Inc. it is provided

—2—

that if in any one year we shall not place a minimum of \$1,000,000.00 of business, we agree at the end of such year to pay the contractors the sum equivalent to 10% of the difference between the amount of business actually placed during the year and \$1,000,000.00.

Secretary read a letter from Evans-Winter Hebb, Inc. recording the fact that for the year beginning July 1, 1925 and ending June 30, 1926, business placed amounted to \$906,675.03 which warranted a penalty of \$9,332.50. Contractors offer to waive temporarily the penalty for the first year for a period of six months, pending the results of the first half of the second year (period July 1, 1926 to December 31, 1926), with the statement that if results come up to their expectations they will feel justified in cancelling the penalty, with the understanding that this would have no bearing on succeeding years.

The committee accepted the offer.

- (d) Application of Quantity Discount Schedule to Combined Purchases of Duco, Thinner, and Other Items Purchased from duPont Company. Secretary presented statement showing volume of business done with the duPont Company and additional volume of business which they could supply, compiled from statements submitted by divisions.

Mr. W. P. Allen of the duPont Company was invited to discuss with the committee the feasibility of an arrangement whereby a sliding scale of quantity Belts discounts could be applied to the aggregate purchases made from the duPont Company. This would include Duco, Thinner, Fabrikoid, Rubber Covered Fabrics, Pyralin, Paints for Maintenance Purposes, etc.

After thorough discussion of all phases of the matter, Mr. Allen agreed that such an arrangement is feasible, and that he would work out a tentative proposal for submission to the committee.

(e) Standardization of Drill Jig Bushings.

The committee approved the suggestion of the Standards Section that efforts be made to standardize Drill Jig Bushings, the range of which includes plain, slip, press fit, and liner bushings, and authorized submission to Sub-committee on Taps and Gages, with the request that they conduct a preliminary study to determine the desirability of such a standard and if so found, conduct a complete study leading to development of standards.

2. Specifications Approved for Submission to Divisions.

- (a) Gloves and Mitts.
- (b) Brooms and Brushes.
- (c) Buffing and Polishing Wheels—Polishing Cloths.

### 3. General Contracts Authorized.

#### (a) Trisodium Phosphate.

Contract with Industrial Chemical Company for General Motors requirements of Trisodium Phosphate authorized for the period of one year from September 1, 1926.

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### 4. General Contracts Extended.

#### (a) Cleveland Graphite Bronze Company. Brief No. 281.

Extension of contract for period of one year from January 1, 1927 authorized because this company agreed to increase the sliding scale of quantity discounts beyond the present minimum of 10% for \$1,000,000.00 to include 11% for \$11,000,000.00, 12% for \$12,000,000.00 etc., and to make this new scale retro-active to January 1, 1926. On account of the volume of business done so far this year there will be a substantial cash refund.

### 5. Items Approved for Submission to Sub-committee on Non-Productive Materials of Works Managers Committee for Study.

- (a) Abrasive Paper and Cloth.
- (b) Acetylene Welds and Welding Materials.
- (c) Belts.
- (d) Cut Off Wheels.
- (e) Paint Brushes.
- (f) Files.



## 6. Items Approved for Questionnaire.

- (a) Mimeograph Machines and Supplies.
- (b) Cardboard Boxes and Shipping Containers.
- (c) Time Clocks and Cards.
- (d) All Rubber Parts Used on Automobiles.

## 7. General Contracts Approved for Redevelopment.

- (a) Carbon Paper.
- (b) Typewriter Ribbons.
- (c) Elliott Fisher Rolls.

## 8. General Contracts Approved for Renewal for Seller's make of Items.

- (a) Brief 316. Goggles and Head Masks. American Optical Company for period of one year from expiration of present contract.
- (b) Brief 359. Mailing Machines. Postage Meter Company for period of one year from expiration of present contract.
- (c) Brief 367. Files. Continental File Company for period of one year from expiration of present contract.

## 9. Unfinished Business:

Authorized for general contract.

- (a) Hospital Supplies.
- (b) Lubricating Fittings.
- (c) Carbon Paper.
- (d) Typewriter Ribbons.
- (e) Elliott Fisher Rolls.

Authorized for Questionnaire.

(f) Mill White Paint.

—4—

(g) Refractory Materials.

(h) Mimeograph Machines and supplies.

(i) Cardboard Boxes and Shipping Containers.

(j) Time Clocks and Cards.

(k) All Rubber Parts Used on Automobiles.

General Matters.

(l) Summaries of Monthly By-Products Reports and Standardization of Scrap Specifications.

(m) Application of Quantity Discount schedule to combining purchases of items from Standard Oil Company.

(n) Horton Chucks.

(o) Items for consideration for Quantity Discount.

Items for Study by Non-Productive Materials Subcommittee.

(p) Abrasive Paper and Cloth.

(q) Acetylene Welds and Welding Materials.

(r) Belts.

(s) Cut-Off Wheels.

(t) Paint Brushes.

(u) Files.

*James Lynch*

Executive Secretary.

4111

"COPY"

September 23, 1926.

PERSONAL & CONFIDENTIAL

Mr. James Lynah,  
Executive Secretary,  
General Purchasing Committee,  
General Motors Corporation,  
Detroit, Michigan.

Dear Sir:

I received your letter of September 20th advising me that the next meeting of your Committee will be held in Detroit on Wednesday, September 29th, and I find that I am booked up for an important meeting on the same day in New York from which I cannot be excused without great embarrassment. We have given the question of an additional sliding scale of quantity discounts based on total dollars of purchases by the General Motors group from the duPont Company a great deal of study since my discussion with your Committee last month, and, since I shall be unable to present this in person to the Committee, I have decided to outline the plan to you by letter. The plan itself, I believe, leaves little or nothing for discussion as it involves the largest concessions which it is possible for us to make, and I believe is in the form which the Committee desires. Moreover, it involves no obligation whatever on the part of General Motors group, and is wholly in the nature of an incentive to the members of the group to place a larger

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proportion of their purchases with the duPont Company. It likewise is entirely aside and beyond the individual purchase contracts which are at present in effect or which may be made in the future.

—2—

In deciding upon the discounts which are offered in this plan, we have waived aside all questions of variation in margin of profit between different products, realizing that to be successful the plan must offer the greatest possible incentive to your group and at the same time secure an advantage for the duPont Company as a whole. As applied to some of the products which we sell to your group, the operation of the plan will result in actual loss; but, as applied over the entire range of our products, we believe that it will be profitable both to the General Motors group and the duPont Company. The plan itself follows.

#### CONFIDENTIAL DISCOUNT PLAN

EFFECTIVE OCTOBER 1, 1926, TO SEPTEMBER 30, 1927,  
COVERING ALL PURCHASES MADE BY THE G.M.C. GROUP  
FROM E. I. DUPONT DE NEMOURS & COMPANY

The plan outlined herein will apply to all purchases made by the American Divisions of the General Motors Corporation and the Fisher Body Corporation, but will exclude purchases made by the General Motors Export Company, General Motors of Canada, Ltd., and any overseas divisions or plants of the G.M.C. It is necessary to exclude the Export Company and foreign subsidiaries because our business in Canada and in the United Kingdom of Great Britain is handled by subsidiary companies in which we own only a minority stock interest and whose price policy is beyond



our control. Moreover, production costs in these countries are generally much higher than ours due to lower output, higher taxes and protective and/or revenue tariffs on essential ingredients. Likewise, in foreign countries where our business is not conducted through subsidiaries, we are committed by contract with agents whose resale prices

—3—

are similarly beyond our control. Moreover, the total volume of such purchases is of little significance. For the year ending June 30, 1926, our total sales to the Export Company amounted to only \$179,000 out of total purchases by the General Motors group of \$8,109,000, or 2.2%.

During the year beginning July 1, 1925, and ending June 30, 1926, the G.M.C. group purchased from the duPont Company (exclusive of export purchases) \$7,930,034 worth of products. Your current purchases are at a much higher rate. During the months of July and August, 1926, they were at the annual rate of \$10,750,494. We have decided to use as the base line for this plan your purchases for the year ending June 30, 1926, of approximately Eight Million Dollars (\$8,000,000).

On September 30, 1927, or as soon thereafter as the figures can be obtained, we will return to the General Motors Corporation, in cash, the following amounts based upon purchases made from us in excess of \$8,000,000 during the year ending on that date.

<u>Amount of Purchases</u>	<u>Amount to be Returned</u>
\$8,000,000	0
9,000,000	\$75,000.
10,000,000	175,000.
11,000,000	300,000.
12,000,000	450,000.
Each additional 1,000,000 .....	150,000.

4111 .

—4—

As explained by me at the time of my discussion with your Committee, the success of this plan hinges largely on the ability of the members of your Committee to treat the details of this arrangement as a confidential matter between the two companies. You will readily understand that our continuing to make adjustments of this size is contingent upon our ability to maintain our price structure to customers other than the General Motors group, and if this arrangement is translated into cents per gallon, yard or pound of individual commodities and becomes general knowledge in the trade, our entire price structure will collapse, and we will thereafter have insufficient earnings to continue the arrangement.

I regret very much indeed that I shall not be able to present this matter to your Committee in person, but will be very glad to attend any subsequent meeting or to call on individual members of the Committee, if any of them so desire, at any other time which suits their convenience.

Yours very truly,

General Manager:

W. P. Allen  
AMG

NOTE: "D 6410" is written in lower right corner of each page.

4115

"COPY"

PERSONAL & CONFIDENTIAL

September 23, 1926

Mr. James Lynah, Exec. Secretary,  
General Purchasing Committee,  
General Motors Corporation,  
Detroit, Michigan.

Dear Jim:

I am enclosing a letter addressed to you as Secretary of the Purchasing Committee, outlining the plan which we have developed to put into effect the suggestions made by your Committee at the time of my discussion with them. In this plan we have gone to the extreme limit, and I sincerely hope that it will appeal to the Committee and will produce the desired result.

I want to say a word to you about the desirability of keeping this matter confidential and treating it as an arrangement within the duPont-G.M. family rather than as a mere concession in prices on individual commodities. A few days after I had my last discussion with the Committee, I received an urgent call from the General Manager of the Flint Paint and Varnish, Ltd. of Canada, advising me that General Motors of Canada had asked Flint to reduce prices immediately in accordance with the new scheme which duPont was putting into effect with General Motors in the States. I have explained in my formal letter to you why it is not possible for us to include the Export Company and your foreign subsidiaries in this arrangement, and I again

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want to emphasize the importance of treating this whole matter in a

—2—

confidential manner. It is obvious that we would be unable to continue this arrangement unless we can secure much higher prices from our other customers; and, if the terms of this arrangement become public knowledge in the trade, we would inevitably be forced to reduce prices generally, which would in turn wipe out the earnings which we purpose to return to you as a rebate under this plan.

With kind regards, I remain,

Sincerely yours,

W. P. Allen  
AMG

encl.

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NOTE: "C 6410" is written in lower right corner of each page.

4117

"COPY"

GENERAL MOTORS CORPORATION  
DETROIT MICHIGAN

September 30, 1926.

Mr. W. P. Allen,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

Dear Sir:

At the meeting of our Standing Sub-committee on 29th inst. it was agreed to accept the confidential discount plan, effective October 1, 1926, covering all purchases made by the General Motors group from E. I. duPont de Nemours & Company, with the following provisions which we assumed would meet with your approval.

- 1—That in order to make the plan end with the Car Division year, the first period effective October 1, 1926; expire June 30, 1927. Thereafter renewals would be for the full car year.
- 2—That the above period being for nine months the base line would be \$6,000,000 instead of \$8,000,000, and the amounts to be returned pro-rated accordingly.
- 3—That with respect to amount of purchases; on amount of purchases intermediate between the figures there would be returned to us an amount pro-rated on any amounts of purchases intermediate to those listed in your letter.



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We assumed this was the spirit of your letter but desired to confirm it.

The urgent necessity of keeping your plan confidential was emphasized and it was agreed that instead of issuing our usual contract brief and recording this transaction in the minutes of the meeting, that copies of your letter, under confidential cover, would be sent to the Purchasing Agents only, with the request that they exercise the greatest care in holding the plan confidential.

Very truly yours,

GENERAL PURCHASING COMMITTEE,  
James Lynah  
Executive Secretary.

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NOTE: "B 6410" is written in lower right corner.

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E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)  
WILMINGTON, DELAWARE

PAINT, LACQUER & CHEMICALS DEPARTMENT

Mr. James Lynah,                      October 2, 1926.  
Executive Secretary,  
General Purchasing Committee,  
General Motors Corporation,  
Detroit, Michigan.

Dear Sir:

This will acknowledge your letter of September 30th,  
advising me of the acceptance by your standing sub-com-  
plan

mittee of the confidential discount which I presented to  
you in my letter of September 23d. The three provisions  
which you have added to the plan as presented by me are,  
as you have assumed, entirely within the spirit of our pro-  
posal, and you may take this letter as our acceptance of  
these provisions.

I am glad to note from the last paragraph of your  
letter that you have adopted a method of handling this  
transaction which will reduce to a minimum the likelihood  
of the information leaking out. Such a result, as I pointed  
out to you in my original letter, would be equally disastrous  
to the General Motors group and ourselves as it would  
make it impossible for the plan to be continued.

Yours very truly,

W. P. Allen  
AMG

General Manager.

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NOTE: "A 6410" is written in lower right corner.

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FORM 20621 3M 7-26

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

WILMINGTON, DELAWARE

PAINT, LACQUER & CHEMICALS DEPARTMENT

CONFIDENTIAL

October 2, 1926

RECEIVED  
OCT 4 1926  
LAMMOT DUPONT

*15% for material should be made by duPont & GM  
b pr sales effort by duPont & GM  
st. Hall  
Hall*

Re: Confidential Discount Arrangement  
with General Motors Group. ROY H.

I advised the Executive Committee verbally at a recent meeting of our plans with respect to a confidential arrangement with the General Motors Purchasing Committee by the operation of which we hoped to get a larger proportion of the total G. M. C. business through the use of a sliding scale of quantity discounts applying to all purchases made by the G. M. C. group from duPont Company.

While I do not think it necessary to report this matter in detail to the Committee, it being within the authority of the department, I am enclosing copies of the correspondence which, I think, you will find of interest.

W. P. Allen ✓

*dup 2858-T*

W. P. A.

AMG

ENCLS.

1839

4121

EXCERPT FROM

DECEMBER 23, 1926 MONTHLY REPORT - NOVEMBER, 1926 -  
PAINT, LACQUER & CHEMICALS DEPARTMENT (MR. W. P.  
ALLEN, GENERAL MANAGER) TO THE EXECUTIVE COMMITTEE  
OF THE DU PONT COMPANY (GMC-1057)

\* \* \*

The General Motors Corporation are unwilling to make a requirements contract for 1927. We have reduced the price of thinners from \$1.75 per gallon to \$1.50 per gallon in one instance, and from \$1.40 to \$1.20 in another instance, these prices being subject to a quantity trade discount, which would in the latter named instance mean a delivered price to General Motors of \$1.026 per gallon. Competition in the pyroxylin finish field has apparently caused the General Motors to adopt this attitude.

In addition to the above, some divisions of the General Motors Corporation at least will undoubtedly make their own thinners.

\* \* \*

Sales of Special Significance. We have further releases for 58 000 yards of heavy qualities from Chevrolet Motor, shipments to be made during the latter part of December and early part of January, following present schedule against which we are now shipping. We were successful in closing with Buick Motor Co. for their Fabrikoid requirements for the first half of 1927 at our prices, notwithstanding competition from Federal Leather Co. at a differential of 11¢ per yard under our quotations; and orders have been received from them for 10 000 yards of 6200 quality for shipment over the balance of December and early January. . . ."

E

1840



EXCERPT FROM

4122...

JANUARY 24, 1927 MONTHLY REPORT--DECEMBER, 1926--  
PAINT, LACQUER & CHEMICALS DEPARTMENT TO THE  
EXECUTIVE COMMITTEE OF THE DU PONT COMPANY (GMC-1059)

\* \* \*

"On our 1927 contract with General Motors we are unable to get any definitely specified amount of business in the contract. Last year we had a provision in the contract giving us all the General Motors business with minimum of 50% of the Fisher Body purchases of pyroxylin materials. In the 1927 contract General Motors agree only to purchase their requirements of our make of pyroxylin materials which, of course, may be as little or as great as they care to purchase from us.

\* \* \*

Insistence of General Motors on cheaper thinner prices with the ever present possibility of that customer manufacturing its own requirements, will necessitate a further drastic cut in thinner prices if we are to retain this business at all. General Motors has been offered a usable mixture by the U. S. Industrial Alcohol Company on a requirements contract for the first half of 1927 at 81¢ per gallon delivered. It is our understanding that General Motors specified the composition of this material, but they did not give us an opportunity of bidding on this kind of a proposition. We feel that we must hold this business and are making an offer now at approximately this same net price when all discounts are included. We shall, of course, have to extend this to other customers, and it means that profits from thinner business during 1927 will be about \$400,000 less than in 1926.

\* \* \*

Sales of Special Significance. In the automotive field, we were successful in closing with Oakland Motor Company for their requirements for the first six months of 1927, notwithstanding lower prices being quoted by Federal Leather and Cotex. Releases against this contract, amounting to 12 000 yards for at once shipment, have been received. Orders for 27 000 yards were received from Fisher Body Company, most of which was for Chevrolet work for shipment during January and February. . . .

E



EXCERPT FROM

GENERAL MOTORS CORPORATION

4123

Excerpts from Minutes of Meeting No. 25 of Interdivisional Relations Committee - General Purchasing Committee held January 26, 1927

\* \* \*

DUCO AND DUCO THINNER.

Because the U. S. Industrial Alcohol Sales Company required a general contract for a specified minimum of thinner to be taken in six months, and because of marked reductions in prices on Duco and Thinner by the duPont Company, the matter was re-submitted to the Committee for consideration. Considering the interest of the Corporation from every angle, and particularly the initiative of the U. S. I. A. Sales Company in setting the lowest levels yet reached for thinner prices, it was agreed to offer them a contract for six months on 601 and 614 thinner for 50% of the entire Corporation's requirements.

The duPont Company's prices on duco, effective January 24, and new prices on thinners, effective as of that date, were accepted to apply on contract for our requirements of Seller's make.

At the foregoing meeting, held at Detroit, Michigan, on January 26, 1927, at 9:30 a.m., the minutes disclose that the meeting was called to order by Mr. Pratt and that the minutes were recorded by James Lynah, Executive Secretary.

The following persons were present:

G. G. Allen	D. P. O'Keefe
W. F. Armstrong	J. L. Pratt
D. F. Hulgrave	J. T. Stratman
James Lynah	Charles Fisher
C. O. Miller	



4124

E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

October 28, 1926.

EXECUTIVE OFFICES

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
224 West 57th Street,  
New York City, N. Y.

Dear Mr. Sloan:

Our Paint Department, tell me they have developed a pyroxylin surfacer for automobile bodies which has been adopted by some important automobile manufacturers, and which, in the opinion of our men, produces better finish than the ordinary surfacers.

General Motors and Fisher have not adopted this new surfacer, apparently because it is somewhat more expensive than what they are using. Our men are perfectly sure that they can prove that wherever Fisher builds a new plant for body finishing it is more economical to use the new surfacer than that now used, simply because the new surfacer does not require as expensive an installation in ovens, etc.

Recalling the difficulty that was had in "selling" Duco to the General Motors units, I am impelled to drop you a line in this case, feeling that the same inertia is acting against this pyroxylin surfacer as delayed the adoption of Duco.

Yours very truly,

PRESIDENT.

LduP/MD

1843

NOTE: "RECEIVED OCT 29 1926 A.P. SLOAN, Jr." is stamped at upper right; above and to the right of it appears a routing stamp bearing the initials "A.P.S.", "J.L.P." and "L.R.B.", with "10/29" written after "J.L.P."

# GENERAL MOTORS CORPORATION

224 WEST 57TH STREET

NEW YORK

Mr. Lamot duPont, President,  
E. I. duPont de Nemours & Co.,  
Wilmington, Delaware.

October 29, 1926  
**ANSWERED**  
OCT 30 1926

RECEIVED  
OCT 30 1926  
LAMMOT DUFONT

LAMMOT DU PONT

Dear Mr. duPont:

In Mr. Sloan's absence your letter of October 28th in regard to the new pyroxylin surfacer for automobile bodies has been referred to me.

I think the reason General Motors and Fisher have not adopted this new surfacer is because they believe our Research Department have developed less expensive thinners and pyroxylin mixtures that will be perfectly satisfactory for automobile finishes than the duPont Company are now supplying and, naturally, they resist the effort of your organization to sell them on something that from a cost standpoint instead of being less is more expensive.

There is an unfortunate feeling in our organization that the duPont Company never takes the initiative in bringing costs down. All lowering of cost has to be initiated by us through bringing in competition. This is not the case with most of our suppliers, who, recognizing that the increased volume of automobile business has been largely developed through lowering cost of the automobile, are always working with us and quite frequently on their own initiative give us price reductions through methods that they have developed in lowering their own costs. The impression in our organization in this regard toward the duPont Company may be unjust, but, nevertheless, it exists and I think some real effort should be made in your organization to counteract this impression.

Notwithstanding the above, I am calling the new development to the attention of Mr. Ed Fisher, who has charge of the installation of equipment in the Flint Body plant, as indicated by the enclosed letter.

Yours very truly,

*J. L. Pratt*  
Vice President.

JLP:L  
Encl.

October 29, 1926.

Mr. Ed Fisher,  
Fisher Body Corporation,  
Detroit, Michigan.

My dear Ed:

I have learned for the first time that the duPont people claim to have a new type of Duco that produces a better finish than their present Duco. They also claim that this new Duco does not require as expensive an installation in ovens and other equipment for application and that in a new plant the installation could be so much simpler than the present installation for application of Duco that notwithstanding that this new Duco will cost more money, it will be more economical to use and will produce a better finish than that at present used.

I do not know whether this has been brought to your attention, but thought if it had not, you would be very glad to know of it so that if the claims of the duPonts can be substantiated, you would like to take advantage of anything that it offers in the new plant which you are now equipping at Flint.

Yours very truly,

*J. L. Pratt*  
Vice President

JLP:L

CC - Mr. Lamont duPont, President  
E. I. duPont de Nemours & Co.  
Wilmington, Del.

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NOTE: "gmc-594 1" is written in lower right corner.  
Italics indicate handwriting.



4127

GENERAL MOTORS CORPORATION

224 WEST 57TH STREET

NEW YORK

NOV 10 1926  
LAMMOT DUPONT

November 8, 1926.

Mr. Lammot duPont, President,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

*Callahan*  
*11/11*

My dear Lammot:-

I have been looking over your correspondence with Mr. Pratt, started by your letter of October 28th in which you advised us of some developments in your Paint Department.

I appreciate the point made in the last paragraph of your letter regarding difficulty in selling "Duco". I do not think, however, that "Duco" is any different from anything else. It is a case of selling most everything and it gets most discouraging at times. I sometimes come to the conclusion that a big organization like General Motors can not lead due to the fact that there is so much inertia within itself. However, that is not going to cause us to put forth any less effort to overcome the resistance.

I have gone over Mr. Pratt's reply and hope the proper department in your organization will go into the matter and if, with all the facts before you, you still feel that there are any bets we are overlooking, I would appreciate it if you would write me a letter stating exactly the picture as you see it and I will endeavor, in a proper way, to work it along in the hopes that we can, as soon as possible, capitalize any suggestions that you may have to make.

Very truly yours,

*Alfred P. Sloan Jr*

APSJR./K



4128

Letterhead of  
FISHER BODY CORPORATION  
DETROIT, MICH.

November 12, 1926.

Mr. John L. Pratt,  
General Motors Corporation,  
New York City.

My dear John:

✓  
Your letter of October 29th regarding Duco with copy of Mr. Lamot DuPont's letter to you on this subject at hand. For your information, we have done a whole lot of experimental work with pyroxylin under coats and up to the present time we have not discovered anything that would equal, taking everything into consideration, our present system, which is the oil under coats. The experience we have had is that we might save a lot of time in the drying of the pyroxylin under coats over our present system, but the cost is far greater and would by far offset the saving made in the drying time. We have been using this method since we started to use Duco and have never had any trouble. At the present time there is one concern, that is using pyroxylin under coats and they are having a great deal of trouble out on the road, which is causing them a heavy expense.

1847

4129

I am writing you this information as I think you will be very glad to become acquainted with same if this question comes up again in the future.

Yours very truly,

*E. F. Fisher.*

EFF.S

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NOTE: Routing stamp bearing initials "A.P.S.", "J.L.P." and "L.R.B.", with "11/15" written after "J.L.P." appears in upper right corner. Check mark and underscoring is by hand. Italics indicate handwriting. Illegible initial is written in upper right corner.

November 15, 1926.

Mr. Lammot duPont, President,  
E. i. duPont de Nemours & Co.,  
Wilmington, Delaware.

Dear Mr. duPont:

Referring to our recent correspondence in regard to the subject of pyroxylin undercoating, the use of which the DuPont Company are now promoting among the automobile industry.

Won't you please have a check made and advise if those companies which you have been able to get to use pyroxylin undercoats are having an excessive amount of trouble with same in the field, as I have been advised that one automobile concern using pyroxylin undercoats is having a great deal of trouble out on the road, which is causing them a heavy expense.

Very truly yours,

Vice President.

JLP:V

copy to Mr. A. P. Sloan, Jr.

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NOTE: "G.M.C.—Products—Supplies & Materials—Paints—Duco" is written across top of page, followed by an illegible initial. A hand-drawn line appears under "pyroxylin undercoating" in the first paragraph.

4131

November 16, 1928.

MR. W. P. ALLEN, GENERAL MANAGER:

As you know, I took up with Mr. Sloan the matter of adopting a pyroxylin surfacer in the plant being built at Pontiac, having understood from Mr. Moesmann that the pyroxylin surfacer had been offered them but they had not adopted it and were proceeding to build the Pontiac plant with necessaryovens, etc. for using old type surfacer.

On November 8th Mr. Sloan wrote me, stating among other things, that he hopes "the proper department in your organization will go into the matter and if, with all the facts before you, you still feel that there are any bets we are overlooking, I would appreciate it if you would write me a letter stating exactly the picture as you see it and I will endeavor, in a proper way, to work it along in the hopes that we can, as soon as possible, capitalize any suggestions that you may have to make." If it is possible to have Mr. Moosmann set this matter out in writing, I think I could arrange to have him present the matter directly to Mr. Sloan and perhaps some good might be accomplished.

LAMP/ED

PRESIDENT.





E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

EXECUTIVE OFFICES

December 17, 1926.

4132

Mr. John Pratt, V. P.,  
General Motors Corporation,  
New York City, N. Y.

Dear John:

Referring to your letter of November 15th, in regard to pyroxylin undercoatings, in which you asked whether any companies have been having trouble with their use; would state that, after a survey, our Paint Department report to me that our Mr. Moosmann discussed this matter with you and pointed out that, as far as our information goes, the Peerless, which uses a competitive product, is probably the one you had in mind.

As far as we know, there are no companies using our pyroxylin undercoating which are having any serious difficulty. From such information as I can secure I am convinced that G. M. is making a mistake in not adopting pyroxylin undercoatings, and hope that you or someone else will see that the matter is given careful consideration.

Yours very truly,

*J. I. Du Pont*  
PRESIDENT.

LduP/MD

1851

NOTE: Marks below and to the right of date appear after "J.L.P." in routing stamp bearing initials "A.P.S.", "J.L.P." and "L.R.B."

4133

EXCERPTS—

April 21, 1928

To: EXECUTIVE COMMITTEE

FROM: PAINT, LACQUER & CHEMICALS DEPARTMENT

PAINT, LACQUER & CHEMICALS DEPARTMENT  
MONTHLY REPORT — MARCH 1928

April 17, 1928

To: W. Richter, General Manager

From: Fabrikoid Division

Report for March, 1928

Eliminated

4 2149

Profit over direct cost on transfers of Brush Duco materials to Philadelphia are \$4,874.71 for March and \$11,225.52 for the year to date.

<u>SALES</u>	<u>March 1928</u>	<u>February 1928</u>
Duco (Domestic)		
Parlin & Flint	\$1,201,486.48	\$1,079,602.84
Other Products (Domestic)		
Parlin	245,808.77	243,966.05
Flint	219,638.17	164,379.38
Transfers		
Duco (P. & F.)	27,885.39	11,362.50
Parlin Other Products	112,357.59	85,931.95
Flint Other Products	76.90	62.95
Export		
Duco (P. & F.)	110,167.56	86,841.12
Parlin Other Products	6,997.96	3,554.87
Flint Other Products	5,667.55	744.11
<b>TOTAL</b>	<b>\$1,930,086.37</b>	<b>\$1,676,445.77</b>
Duco	1,339,539.43	1,177,806.46
Parlin Other Products	365,164.32	333,452.87
Flint Other Products	225,382.62	165,186.44

Distribution of Duco sales:

	<u>March 1928</u>	<u>To Date 1928</u>
<u>COLORED DUCO</u>	257,631 gals.	743,750 gals.
General Motors Units	36%	45%
Other Motor Manufacturers	18	17
Automotive Refinishers	18	14
Railroads	2	2
Furniture Manufacturers	10	7
General Industrial	8	6
Export	8	9
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>
<u>CLEAR DUCO</u>	40,692 gals.	131,091 gals.
General Motors Units	4%	6%
Other Motor Manufacturers	2	1
Automotive Refinishers	3	3
Railroads	2	1
Furniture Manufacturers	70	68
General Industrial	15	17
Export	4	4
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>

Total sales exceeded forecast by 2.18% and established a new record month, being 2% higher in value and 13% higher in quantity than our previous record month of March, 1927.

The high sales of colored Duco and Thinner reflect the continued activity in the automotive industry.

While the March sales of Parlin Products other than Duco were not much greater than February, they included items which carry a higher rate of profit, which accounts for the increase in net from \$39,416 in February to \$60,893 in March shown above.

#### OUTLOOK

The outlook for April in the general industrial field indicates that some increase will be made over March.

The present outlook is for a continuation of a high rate of production in the automotive field. There may be a slight slowing-down on the part of Chevrolet.

#### PRICE & COMPETITIVE SITUATION

The price of automotive Duco has been reduced from a list of \$3.00 to a list price of \$2.75 per gallon, subject to the usual quantity discounts, which leaves General Motors' net price at \$2.53 per gallon. This new price is effective as of April 1st.

Naturally the manufacturers welcomed this reduction, although several of them did not fail to remind us that our competitors had long since favored them with lower prices. On the part of Fisher Body they expressed their satisfaction, but at the same time they wrote Parlin, under date of April 2nd, as per attached. Parlin's response, under date of April 7th, is also attached hereto.



A136

C FISHER BODY CORPORATION  
Q DETROIT, MICH.  
P  
Y

April 2, 1928.

E. I. DuPont de Nemours & Co.,  
Parlin, New Jersey.

"Attention Mr. Flaherty"

Gentlemen:

Acknowledging receipt of your letter of March 30 in which you confirm revised prices on 244 and 235 line of Ducos, as well as the 233 line of Pyroxylin Surfacers and Primers.

In revising the prices of the above mentioned material we wish it thoroughly understood that you will not, in any way, cheapen the product of your merchandise, or use any substitute in lieu of the ingredients used in the past without first bringing any such change to our attention.

Trusting that we may have an early acknowledgment of this letter.

Yours very truly,

FISHER BODY CORPORATION  
Division of General Motors Corporation.

By (Signed) J. T. STRATMAN  
Director of Purchases

JTS:FA

C.C. To Mr. R. C. Williams  
General Motors Bldg.  
Detroit, Mich.



C  
O  
P  
Y

4137

April 7, 1928.

Fisher Body Corporation,  
Detroit, Michigan.

Gentlemen: Attention of J. T. Stratton, Director  
of Purchases

In acknowledging receipt of your letter of April 2nd, we should like to take advantage of this opportunity of outlining to you our policy regarding the maintenance of standards of quality in Duco.

We have no intention of lowering the quality of value of Duco, but naturally shall be stimulated by the low prices now prevailing on this product to make every legitimate effort to lessen its cost; in fact, we definitely contemplated making such changes when putting the recent price reduction into effect, because only in this way can the business be made to yield a fair return. In continuing to maintain as a fixed policy our present high standard of quality, our responsibility for the product we furnish will continue in the future exactly as it has been in the past.

In taking advantage of any opportunities of lowering our costs as new solvents may be made available; or changes in solvent market conditions may offer less expensive combinations, we shall, of course, advise you in advance of any impending changes, provided they will in any material way affect or require changes in your shop practice. Any minor formula changes, however, which do not affect working qualities, we would not expect to call to your attention.

In the past it has been our practice to take up any important formula matters with Mr. Mougey, and we should like to inquire if this will be acceptable as due notice to you of such changes or should we in addition bring them to the attention of some individual in your own corporation?

Very truly yours,

EMF:MAP

ASSISTANT DIVISION MANAGER

GENERAL

There is a trend in the automotive industry to specify their own chemical composition for lacquers rather than to accept the standard Duco formulation. An outstanding instance of this is at Dodge, where the sale that had been made to them of 17,000 gallons of Duco fell through because of our refusal to alter the composition of Duco to conform to their ideas. While this is put in the guise of striving for improved quality, the fact of the matter is that in practically all cases a lacquer of higher film-forming constituents is specified. The net result of this is that such a higher solids lacquer would take more thinning and go further per gallon on the job. In other words, what they are looking for is a still further reduction in the price of their lacquer. In the case of Chevrolet, who have approached Parlin for a product of this type, it was been estimated that the Parlin cost of manufacture would be increased 25¢ per gallon.

Parlin faces a problem in the increasing burden of supplying special small lots of individual colors, either for refinishing purposes or to meet the individual tastes of customers in the higher quality car such as Cadillac. Some of these specials are for as little as a pint at a time, and in the case of Cadillac the average order for these special jobs runs from a gallon to two gallons. All of this is quite ex-

## FAB-2

At Newburgh, in consequence of heavy releases from practically all lines of business, March billings reached the highest figure in our history. It is expected that our

volume for the next two months will be at a high level, but probably 10% less than the high figure for March. A good volume of business is expected from the kitchen shelving and tablecloth markets. Reports from the bookbinding and case covering trades indicate that both these industries are looking forward to a good spring business. In the automotive field, our expectations have recently encountered a severe setback thru the loss to Textileather of probably the major part, and perhaps all, the business in pyroxylin materials for Buick bodies. This business was taken, according to our information, at an extremely low price (reported to be at least ten cents a yard under our quotation) evidently on the policy of sacrificing profits in order to become re-established in the enjoyment of this part of the Fisher business. On Tontine we expect an increased volume during April and May, in line with the customary spring demand in the shade industry. Owing mainly to a well distributed volume of general business, earnings at Newburgh are expected to continue at a substantial rate for the near future months, and our hopes are for maintaining this position throughout the year.

Gray Goods Position April 1st. Fairfield requirements for the automotive trade are about 90% covered for the period April-June; while no coverage has been made for the months of July, August and September. Requirements of Specialty fabrics are 100% covered for April-June and 10% covered for July-September. Stocks are estimated to be held at about 1% above the market.

Newburgh Fabrikoid requirements are 55% covered for April-June and 5% covered for July-September. Tontine requirements are 60%

covered for April-June. Fabrikoid stocks are estimated to be held at about 2% above the market and Tontine stocks at about market.

FAIRFIELD BRANCH:

Sales

FAIRFIELD BILLINGS COMPARISON—DOLLARS				
	Mar. 1928	Feb. 1928	To Date 1928	To Date 1927
Carriage Cloth—G M C	\$244,021	\$251,446	\$734,285	\$734,636
" " All Others	19,761	19,669	57,745	168,759
Specialties—Ventube	27,006	8,316	54,281	56,218
" " All Others	94,819	121,242	305,808	261,798
Export—All Products	38,525	33,331	115,107	264,054
Transfers—Newb. Cement	5,299	9,158	24,559	3,235
Total	\$429,431	\$443,162	\$1,291,785	\$1,488,700

Production. Fairfield production for the month totaled 880,000 stads or 80% of the rated normal capacity as compared to 980,000 stads for February.

Safety. There were no major accidents at Fairfield during the month and sub-majors totaled three.

Construction Appropriations. At Fairfield, two major projects were drawn amounting to \$7,664 and nine Minors totaling \$9,000.

Prices and Competition. The Fairfield automotive price schedule was reduced approximately 3% on March 15th and additional 2% reduction was made to Fisher Body Corporation on April 7th on the principal item that we sell to them. Leatherette prices were reduced 8% on March 15th and an additional 3% on April 1st. The decline in price of crude rubber



4111

FAB-5

Experimental Development. During the past quarter, \$14 700 was spent for experimental work. It is expected that expenditures for the ensuing quarter will total \$12 000.

In co-operation with the Newark Plant, we have succeeded in developing a line of non-fading, non-croaking and non-bleeding colors for our leatherette line. We know of no other make of leatherettes for which these claims can be made.

Fairfield Inventories.

	<u>Actual</u>	<u>Standard</u>
Raw Materials	\$322 526	\$398 000
Finished Product	202 057	212 500
Total	\$524 583	\$610 500

NEWBURGH BRANCH:

Sales

NEWBURGH BILLINGS COMPARISON--DOLLARS

	<u>Mar. 1928</u>	<u>Feb. 1928</u>	<u>To Date 1928</u>	<u>To Date 1927</u>
General Motors	\$131 816	\$155 195	\$429 891	\$322 295
Domestic—General	479 659	377 830	1 189 975	834 877
Tontine—Domestic	120 069	89 515	289 204	232 353
Export—All Products	66 726	69 188	218 673	266 656
Total	\$798 270	\$691 708	\$2 127 743	\$1 656 181

Complaints. No complaints of serious consequence were received at Newburgh during the past month.

Export. Newburgh bookings for March totaled 82 000 yards as compared with 88 000 yards in February, and for the first quarter of the year are about in line with those for the same period last year. Our business from Europe and South America is showing an increase. Australian demand, however, continues light because of poor conditions in the



motor industry and the latest report from our agents indicates that the majority of automotive body manufacturers are practically closed down.

## PVL-3

GROSS RECEIPTS

<u>Sales</u>	<u>March 1928</u>	<u>% Inc. over March 1927</u>	<u>February 1928</u>	<u>March 1927</u>
Trade	\$422,073	9.3	\$400,143	\$385,995
Industrial	164,948	5.0	121,583	173,705
Automotive	47,689	40.5	29,950	80,184
Railway	76,059	4.7	50,034	72,659
Export	32,251	63.5	35,951	19,722
Total Paint & Varnish	743,020	1.3	\$637,661	\$732,265
Total Lead	33,496	8.1	29,595	36,461
Total Brush Duco	233,631	26.4	202,179	317,466
Grand Total P.V. & L. Div.	\$1010,147	7.0	\$869,435	\$1086,192
<u>Transfers</u>				
Total P. & V. Trans.	29,576	22.6	25,124	38,212
Total Lead Transfers	27,348	8.9	25,992	30,004
Total B. Duco	3,978	112.4	874	1,826
GRAND TOTAL	\$1071,049	7.4	\$921,425	1156,234

Total outside sales were \$140,000 greater than last month, but \$76,000 (7%) less than March 1927. The decrease over last year was chiefly the result of lower volumes of Automotive and Brush Duco Sales. Although General Motors are known to be exceeding last year's business, the particular units we are supplying apparently are not sharing in this increase. The decrease in Brush Duco Sales over last year is chiefly the result of heavy shipments of initial Duco Clear orders last year.

PAINT & VARNISH TRADE SALES:

Paint and Varnish Trade Sales exceeded last month and were 9.3% ahead of March last year. March business was characterized by a large number of small orders, indicating the

## PVL-4

"hand-to-mouth" policy of the Trade. Cold weather also had a retarding influence on sales.

BRUSH DUCO SALES:

Brush Duco Sales and Transfers were \$34,000 greater than in February, but \$82,000 (26%) under March last year due mainly to the shipment last March of initial orders (\$70,000) of Clear Duco.

INDUSTRIAL SALES:

Industrial Sales showed a substantial increase over last month, due to two cars of paint shipped to the American Radiator Company and increased sales to the Steel Fabricating Industry. General Industrial Sales also improved. Sales were 5% less than March of last year due to lack of buying on the part of the Petroleum Industry in the West. Last year's business also included two carloads shipped to the Austin Company (for the Oakland Motor Plant), from whom we have received only a small amount of business this year.

AUTOMOTIVE SALES:

Automotive Sales were \$17,000 greater than February due to heavier shipments to Chevrolet and Nash. Although sales were 40% behind March 1927, as mentioned above,

4111

this does not mean that we are losing any business, but merely that we are getting less business from the same accounts than last year, which was our record-breaking month for Automotive business.

RAILWAY SALES:

The gain over last month in Railway business was caused by a resumption in buying on the part of a number of roads, particularly those in the Southwest, which were affected by the flood. Sales for March represent a normal month, whereas Febru-

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NOTE: "gmc-1066" is written in lower right of every page. "7", "8", "9", "10", "11", "15", "16", "18", "24" and "25" are stamped at bottom of successive respective pages of the excerpts.

Government's Exhibit No. 492

4115

EXCERPTS—

October 21, 1927

To: EXECUTIVE COMMITTEE

From: PAINT, LACQUER & CHEMICALS DEPARTMENT

PAINT, LACQUER & CHEMICALS DEPARTMENT  
MONTHLY REPORT—SEPTEMBER, 1927

October 20, 1927

To: W. P. Allen, General Manager

From: Fabrikoid Division

Report for September, 1927

Eliminated

4 2124

GMC-1063

1864



fields we serve.

The distribution of Duco sales follows:

	September 1927	To Date 1927
<u>Colored Duco</u>	190 250 gals.	1 922 000 gals.
General Motors Units	33%	33%
Others Motor Mfgs.	21	23
Automotive Refinishers	21	19
Railroads	2	2
Furniture Manufacturers	6	7
General Industrial	7	7
Export	10	9
	<u>100%</u>	<u>100%</u>
<u>Clear Duco</u>	40 000 gals.	341 000 gals.
General Motors Units	3%	5%
Other Motor Mfgs.	1	1
Automotive Refinishers	3	3
Railroads	—	—
Furniture Manufacturers	75	72
General Industrial	13	15
Export	5	4
	<u>100%</u>	<u>100%</u>

Sales of Parlin products other than Duco increased as a result of new business developed for lacquers, the linoleum trade and for waterproofing Cellophane, also treated powder and base solutions for our Duco competitors. These increases, however, were offset by \$11,000 decline in sales to the Film Company.

#### RAILWAY SALES

Railway sales continued at about the same level for September as during the month of August, and while

no new accounts have been gained, successful demonstrations conducted during the month point to increased purchases on the part of already established accounts. Various developments in the railway field continue to come to light, which tend to bring transportation concerns in contact with

#### CP-6

with Nobel Chemical Finishes, Ltd. The decrease is caused mainly by lighter sales to General Motors and to the French Company.

Preliminary information from our Paris office indicates that the recent Franco-German "chemical alliance" may affect the profits of our French plant by making German low viscosity nitrocellulose readily available to lacquer manufacturers in France at low prices. Heretofore the manufacture of nitrocellulose has been a French Government monopoly, and the low viscosity type required for modern lacquers has not been available.

#### OUTLOOK

Automotive production did not reach its customary September and early October peak, and our sales of Duco and allied products have suffered accordingly. The delay in the marketing of the new Ford car is commonly given as the most important single cause of lower automobile sales. Manufacturers, however, feel that this is in no way a permanent loss of business and that greater than normal sales next year will make up for lower figures during the present year. Decreased sales in the automobile field may continue for the balance of the year, and we expect that October sales will be lower than those of September. Recent developments in the automotive field, however, point to the probable acquisition of new Duco business and the regaining of other business previously lost.

We have conducted successful demonstrations at the Studebaker plant, which is an account that heretofore had been very difficult for us to approach. The success

## CP-7

of the demonstrations was reported to the Management of the Studebaker concern by the person in charge of their testing, and we are now more hopeful than we have been at any time in the past of getting some Studebaker business.

We have been greatly encouraged by recent developments at the Nash plant and feel now that we are likely to get back at least 50% of this company's requirements. Superior working qualities of Duco is admitted by the Nash officials, and while we naturally expect the Pittsburgh Plate Glass Company to make every effort to improve their product in the respects in which it is now deficient as compared with Duco, we still believe that it is the intention of the Nash Company to give us an appreciable share of the business in the future.

Renewed interest on the part of the General Motors people has been aroused in the question of the volume oil-type undercoats and black "Duco" business that is being placed with competitors by the Fisher Body Division. Their own estimate is that General Motors Corporation might save as much as \$500,000 a year by placing this business with us, due to our lower prices on undercoats and the increased discount this added volume would enable them to obtain on all other purchases under our so-called "super discount" agreement. Our latest information is that this subject is being actively agitated by the G. M. Purchasing Committee but have not yet heard to what extent the operation of the super discount plan is swinging sentiment in our favor.

FAB-4

an option to switch from these fabrics to other constructions if it should prove necessary to do so.

FAIRFIELD BRANCH:

Sales.

FAIRFIELD BILLINGS COMPARISON—DOLLARS

	Sept. 1927	Aug. 1927	To Date 1927	To Date 1926
Carriage Cloth	\$ 79 284	\$146 282	\$1 840 104	\$1 596 828
—G M C				
"	43 629	42 390	425 349	519 436
—All others				
Specialties—	20 931	16 506	156 243	150 529
Ventube				
"	282 112	224 344	1 388 538	804 255
—All others				
Export—All	39 736	60 717	709 439	503 964
products				
Total	\$465 692	\$490 239	\$4 519 673	\$3 575 165

Production. Fairfield production for the month totaled 1 020 000 stads, or 104.2% of the rated normal capacity, as compared to 1 080 000 stads in August.

Safety. At Fairfield, there were no Major accidents during the month, and only one sub-major.

Construction Appropriations. One major project was approved for Fairfield, amounting to \$3 680; and one minor, for \$350.00.

Experimental Development. Expenditures for the quarter just past amounted to \$12 400, and it is expected that \$12 000 will be spent during the ensuing quarter. Tests



have now been completed on the use of un-pigmented undercoats for Everbright, in place of the first coat of Everett Bright varnish, which has regularly been used up to this time; and the indications are that this substitution can be made without any loss of quality and with a probable saving of  $\frac{3}{4}$ ¢ a yard. Brominated casein finish is now being applied to all satinette, with a resultant improvement in finish and in percentage

## FAB-5

of first class material. Titanox has been adopted for use in sheet gum products in place of lithopone, since, although the initial cost of this pigment is higher, it is more readily incorporated into the compound, results in fewer pinholes and produces better colors.

Prices and Competition. On September 19th a new automotive fabrics price list was issued showing increases of approximately 9%. This increase was made necessary by the greatly advanced cost of gray goods. Similar increases have been made by four of our chief competitors, though the others have apparently not advanced their prices to date, and there is a strong tendency on the part of one or two of the principal factors in this industry to avoid loss in volume by taking business at disastrously low prices. We have just succeeded in securing from Fisher Body additional orders to a total of about 150 000 to 200 000 yards for double texture deck material and visor material for Chevrolet and Pontiac cars to about January 10th. The new prices, corresponding with present gray goods costs, were quoted; but the receipt by Fisher of a competitive offer 10¢ under our price necessitated a concession to hold this business; and the matter was adjusted to their apparent



satisfaction, by our agreeing to bill the first half of the current order at the old figure. Stocks of cloth which we are fortunate in having below the present market will enable us to do this without loss.

Complaints. No new complaints of apparently serious consequence were received on any of Fairfield's products during September.

Fairfield Specialties. September was the best month we have had on specialty business, and, as indicated above, our entire profits for the month were earned on products other than automotive. Approximately 345 000 yards of first quality leatherette material were shipped, as compared with 278 000 yards in August. Capacity

#### FAB-6

business in leatherette is on the books for October and, with a fair amount of rain, November should be a good month also. For gum rubber products, the demand is apparently again increasing. Owing to the large volume of leatherette production, we have capacity left at present for only 400 pounds a day of such products, as against a normal goal figure of 1 000 pounds daily; but we are hopeful of expanding production on gum rubber to offset some probable decline in raincoat volume in November.

#### Fairfield Inventories.

	<u>Actual</u>	<u>Standard</u>
Raw Materials	\$399 592	\$411 360
Finished Products	181 820	338 960
Total	<u>\$581 412</u>	<u>\$750 320</u>

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NEWBURGH BRANCH:

Sales.

NEWBURGH BILLINGS COMPARISON—DOLLARS

	Sept. 1927	Aug. 1927	Jan.-Sept. 1927	Jan.-Sept. 1926
General Motors	\$115 256	\$121 715	\$1 186 970	\$ 703 457
Domestic—General	332 068	289 119	2 559 902	2 381 427
Tontine—Domestic	140 507	121 708	890 984	676 333
Export—All products	64 978	97 836	751 196	797 954
Total	\$652 809	\$630 378	\$5 389 052	\$4 559 171

Complaints. No Newburgh complaints of serious consequence were received during the past month.

Export. Business booked from foreign markets during September amounted to 92 000 yards, as compared with 82 000 yards for the preceding month. Conditions in Europe and South America continue favorable, and orders from our Agents in England continue in good volume. In Australia, however, conditions are very

FAB-7

unfavorable, due mainly to a slump in the automotive industry in that territory, and this market, generally one of our large export outlets, is practically at a standstill.

Prices and Competition. In our last month's report we mentioned the issuance of new Fabrikoid prices, representing an advance of 6% on Sheetings and 3% on heavy goods, over previous list. Our ability to book considerable new business at the higher prices, confirmed by other information, leads us to believe that other manufacturers in the industry have taken similar price-increase action. While we still hear of lower prices being quoted by some of our

smaller competitors, we are hopeful that the higher price level will become firmly established, in view of the existing higher cotton and gray goods prices.

Sales of Special Significance. By virtue of somewhat larger releases from the automotive trade, together with heavier demand from our other general trade, our September bookings again exceeded the million yard mark, the total for the month being 1 115 000 yards. Outstanding bookings during the month were sales to Fisher Body, 80 000 yards; Chevrolet Motor Company, 47 000 yards; Buick Motor Company, 10 000 yards; Ferguson Bros., 35 000 yards; Weiss & Klau Company, New York City distributors, 25 000 yards; and Henry B. Day Company, California distributors, 20,000 yards.

Sales Development—Department Store Field. Our actual and prospective sales in this market, so far as now apparent, are divided between two channels; first, material cut into strips, edges pinked, etc., for kitchen shelving and other decorations, together with yard goods to match; and second, Fabrikoid in yard or roll goods for sale in the art and needlework departments, to be used, in general, for further hand fabrication by the department store customers. For distribution through the first channel, additional orders amounting to 65 000 yards have been received from the Marcus Diamond Company of New York since our last report; and this concern

#### FAB-9

On most of these developmental ideas, of course, the volume directly aimed at is small; but, in accord with the strategy already successfully applied in the bookbinding field, the underlying purpose is to break down sales resistance and secure a friendlier attitude and a more favorable reception

of our main volume products. In the automotive field, of course, the special resistance which we must constantly contend against on account of our company's connection with General Motors makes this aim doubly important. Through Captain Towle, of the Duco Color Advisory Service, we have been afforded the opportunity of furnishing Fabrikoid for the rear and quarter portions of a special custom built job which Fleetwood-Fisher will display at the Automobile Salon in New York in November, this being, as far as we know, the first time any fabricated covering material has been applied on the top of any custom built body in place of natural leather.

Suede Development. While further improvement is naturally expected to a company manufacturing experience, our production of artificial suede by embedding a mass of small particles of dyed, ground cotton flock upon the cement-coated surface of a suitable fabric, can now fairly be said to have reached the point of successful factory application. The machine designed by the Engineering Department in accord with the experimental results worked out by the Chemical Department and the Newburgh plant is now operating satisfactorily and turning out a uniform product; and our deliveries of a substantial part of our initial order of five thousand yards from Coty (the French perfumery manufacturers) have been approved and accepted. In view of the attractiveness and the essential cheapness of this new product, we are hopeful of being able to develop the sale of it into substantial volume.

Tontine. Our Tontine sales in September of 253 500 yards

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NOTE: "gmc 1063" is written in lower right corner of each page of Excerpts. "10", "12", "13", "23", "24" "25", "26" and "28" are stamped at bottom center of respective successive pages of Excerpts.



**GENERAL MOTORS CORPORATION**  
**GENERAL PURCHASING COMMITTEE**  
**DETROIT, MICHIGAN**

SUBJECT **Du Pont Company**  
**Super-Discount.**

**CONFIDENTIAL**

ATTENTION OF Messrs. G. G. Allen  
W. F. Armstrong  
D. F. Mulgrave  
W. E. Kreitzer

Messrs. C. G. Miller  
D. P. O'Keefe  
J. T. Stratman.

There is attached copy of letter from Mr. Richter of the du Pont Company, showing the volume of purchases by divisions from the du Pont Company for the 12 months ending June 30, 1928. Checks covering the discount earned will be forwarded to each division as promptly as possible from our Treasurer's Department in Detroit.

Attention is called to the Delco-Light and Frigidaire discounts, as it is indicated that almost the entire discount should go to Frigidaire because of the separation from Delco-Light, effective January 1, 1928. Proper distribution between these divisions will be made by the Frigidaire organization.

For your convenience, the discount scale is repeated herewith:

<u>Amount of Purchases</u>	<u>Amount to be Returned</u>
\$ 8,000,000	0
9,000,000	\$ 75,000.
10,000,000	175,000.
11,000,000	300,000.
12,000,000	450,000.
Each additional 1,000,000	150,000.

It is noted that the super-discount amounts to ~~12 1/2%~~ <sup>15%</sup> on the total purchases. It should be carefully noted, however, that had total purchases been increased by \$800,000 there would have been an additional \$100,000 discount, or 12 1/2% of the \$800,000. Had the purchases aggregated \$12,000,000 there would have been a further discount of 15% on the additional \$1,000,000 of business.

We all agree that it is desirable to maintain some healthy competition. However, if 80% of our purchases of material such as the du Pont Company is in position to supply, are given to them on an even basis, the earnings under the super-discount contract will be materially increased, and it is urged that you cooperate to this end.

We will ascertain from the smaller using divisions the total volume of their purchases of such items and endeavor to gain their cooperation in increasing the volume of such purchases from the du Pont Company in case they are now placing more than 20% of such business outside.

Very truly yours,

*James H. Thompson*  
Executive Secretary.

CC: Mr. J. L. Pratt ✓

NOTE: First group of letters in writing at top of page reads "G.M.C."

4156

COPY

E. I. duPONT deNEMOURS & COMPANY  
Wilmington, Delaware.

July 10, 1928.

PERSONAL AND CONFIDENTIAL

Mr. James Lynah, Executive Secretary  
General Purchasing Committee,  
General Motors Corporation,  
Detroit, Michigan.

Dear Sir:

With respect to the confidential super-discount plan in effect between our Company and the General Motors Corporation, we are pleased to enclose herewith our check for \$200,136.79, representing the discount earned on total purchases by your company of \$10,201,094.33 for the twelve months ending June 30, 1928, as set out in the attached memorandum.

You will note that the Fisher Body units earned \$98,547.36 of this super-discount, based on purchases of \$5,022,097.45. Chevrolet Motor Company was second with total purchases of \$2,754,749.14, which earned a super-discount of \$54,036.93, and Buick Motor Company was third, earning \$15,510.60, based on purchases of \$789,986.51.

The purchases and the amount of discount earned for the past twelve months' period by the larger units are summarized as follows:

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	<u>Purchases</u>	<u>% of Total</u>	<u>Discount</u>
Fisher Body Corp.	\$5,022,097.45	49.24%	\$98,547.36
Chevrolet Motor Co.	2,754,749.14	27.00	54,036.93
Buick Motor Co.	789,986.51	7.75	15,510.60
Oakland Motor Car Co.	404,050.64	3.96	7,925.42
Frigidaire Corp.	287,369.08	2.81	5,623.84
Delco Light Co.	228,803.65	2.24	4,483.06
Olds Motor Works	151,876.39	1.49	2,982.04
A. C. Spark Plug Co.	108,364.89	1.06	2,121.45
All Others	453,796.58	4.45	8,906.09
	<u>\$10,201,094.33</u>	<u>100.00%</u>	<u>\$200,136.79</u>

—2—

We trust that your accounting records will confirm our own figures. In case there are any differences we shall expect to hear from you.

Very truly yours,

Wm. Richter.

GENERAL MANAGER

Copy to: —J. T. Stratman, Dir. of Purchases, Fisher Body Corp.

Geo. Allen, Dir. of Purchases, Buick Motor Co.

D. J. O'Keefe, Dir. of Purchases, Chevrolet Motor Co.

C. O. Miller, Dir. of Purchases, Oakland Motor Car Co.

D. F. Hulgrave, Dir. of Purchases, Cadillac Motor Co.

E. C. Beichler, (Frigidaire Corp.)

NOTE: Illegible initial or other mark is written in top right corner of first page.

EXCERPT FROM

4158

JULY 20, 1929 FABRICS & FINISHES DEPARTMENT  
MONTHLY REPORT - JUNE 1929 - TO EXECUTIVE  
COMMITTEE OF DU PONT COMPANY (QMC-1068)

\* \* \*

The third settlement under the special discount plan in effect with General Motors has just been made by the payment of \$379,000, representing discount earned by total purchases of duPont products amounting to \$11,528,000 during the year ended June 30th. For the previous year the discount amounted to \$200,000 on purchases of \$10,201,000, while the first payment (which covered a nine-months period) was \$77,000 on purchases of \$6,960,000.

June earnings include an unusual charge of \$39,000, representing the amount by which the General Motors discount for the year exceeded the forecast for which provision had been made.

While the value to us of this arrangement has been subject to question at times, there appears to be no longer any doubt that it has had and is continuing to have a very beneficial effect in fostering a friendly attitude toward duPont products in general, which serves to minimize the occasional differences that must of necessity arise in the handling of such a large volume of varied products.

Due to the expanding duPont interests in the direction of safety glass, Grasselli, Eastern Alcohol, etc., which were not anticipated when the plan was devised, its operation was limited to the products of this Department when it was renewed for the next 'car year' of General Motors, ending June 30, 1930.

\* \* \*

For several years Fisher Body has used for an intermediate coat a product manufactured by Rinsed Mason known as a "Japan ground coat". We have recently succeeded in interesting them in a pyroxylin product to be used for this purpose and it now seems fairly certain we will obtain at least a portion of this business. They are now testing our Dux/Surfacel in production at the Cleveland factory."



4159

July 20, 1928

Mr. George Staples,  
E.I. duPont deNemours & Co.,  
General Motors Building,  
Detroit, Michigan.

Dear George:

Last week when in Detroit you advised me that General Motors super-discounts from the DuPont Company on our purchases for the twelve months ending June 30, 1928, would have been considerably greater if Ternstedt Manufacturing Company, General Motors Truck, and Yellow Truck & Coach Mfg. Company had been purchasing their paint requirements from you.

In looking over the summary of total purchases made by General Motors I noticed that General Motors Truck purchases amounted to \$87,709.94; Ternstedt \$19,731.33; Yellow Truck & Coach \$66,985.60.

From your remarks I assume that you have information to the effect that the above figures do not represent a sizable part of the paint requirements of the above companies.

For my own information, so that I may take up this matter intelligently, I would appreciate it if you would indicate to me what percentage of the possible paint business of the above companies the DuPont Company received for the twelve months ending June 30, 1928. We are anxious to benefit as far as possible under the super-discounts arrangement with the DuPont Company, always keeping in mind, however, that we do not want to extend our purchasing of DuPont products to the point where we will not always have competition. In my own mind I had arbitrarily set a figure

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that we should not buy in excess of 75% to 80%. In other words, I would be inclined to encourage our divisions to purchase at least 20% to 25% of their paint requirements from competitive sources.

With kind regards,

Very truly yours,

Vice President

JLP:V

copy to Mr. Lynah  
(not shown on original)

NOTE: "G. M. C.—Products—Supplies & Materials—  
Paints—du Pont de Nemours, E. I." is written across top of  
page, followed by illegible initial; and "7-30" and "8-4" are  
written in lower right corner, with a check mark under  
each and with a line drawn through each.

4161



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

CHEMICAL PRODUCTS DIVISION

DETROIT, MICH.

August 8th, 1928.

Mr. J. L. Pratt, Vice President,  
General Motors Corporation,  
Broadway at 57th Street,  
New York City, N. Y.

Dear John:

The total purchases given in your letter of July 20th included Fabrikoid and Du Pont products other than those made by the Chemical Products Division.

During the twelve months ending June 30th 1928, Ternstedt Manufacturing Company's purchases from us of Duco, other finishes, Thinner, Enamels and other chemical products amounted to \$19,731.33. We understand that their total purchases from all sources amounted to approximately \$250,000.00.

The Yellow Truck and Coach Company, Chicago, Illinois purchases amounted to \$46,494.58. General Motors Truck Company's purchases amounted to \$26,354.23. We received the bulk of the business from the Yellow Truck and Coach Company of Chicago, Illinois. We have not, however, been able to check the General Motors Truck Company's total purchases, but we estimate them to be in the neighborhood of \$100,000.00.

According to our information the Fisher Body Corporation use approximately \$2,000,000.00 worth of primers, surfacers and ground coat materials per year. At present we are not getting any of this business. We are about to bring out a new product, however, which we believe will prove very attractive to the Fisher Corporation and should result in our getting some of their undercoat business.

I am very grateful to you for your interest and would like very much to discuss our problems with you whenever you have the time to spare.

With very kindest regards, I remain

Yours very truly,

E. I. du Pont de Nemours & Company

*E. I. du Pont de Nemours & Company*  
Asst Division Manager

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GAB:OB

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GENERAL MOTORS CORPORATION  
GENERAL PURCHASING COMMITTEE  
Detroit, Michigan

SUBJECT duPont Super Discount Agreement

November 10th, 1930

ATTENTION OF PURCHASING AGENTS  
ALL DIVISIONS

CONFIDENTIAL

We desire to call your particular attention to the confidential super-discount agreement between ourselves and the duPont Company. This agreement has been in effect for some time but starting July 1st of this year the volume discount brackets have been reduced, which should make this new arrangement much more profitable to the Corporation. All purchases of products manufactured by the Fabrics and Finishes Department of the duPont Company are included in this arrangement. By this is meant purchases of Pyroxylin Finishes including Duco and Duco Thinners, Undercoaters, Dulux Enamels, Old Line Paints—Varnishes—Enamels—Lacquers, Factory or Maintenance Paints, Fabricoids or Body Trimming Materials.

During the year ending June 30th, 1928, under the old plan, there was distributed to the Divisions a refund of \$200,136.79; during the year ending June 30th, 1929, \$379,176.60. For the year ending June 30th, 1930, purchases were not sufficient to earn any refund. We believe the year ending June 1928 can probably be considered a normal year, therefore, with the lowering of the volume brackets and b



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including purchases of the Export Company which have not been included in previous years, our earnings for the period ending June 30th, 1931, under this arrangement, should show a very material increase.

Assuming, therefore, that the duPont Company is competitive at all times, not only in price but service and quality, a substantial refund can be earned under this new arrangement and greater benefits derived according to the extent of our purchases of duPont products in question. Your cooperation on this basis; therefore, will help toward a maximum refund.

Very truly yours,

GENERAL PURCHASING COMMITTEE  
Purchase Contract Investigation Section

By: *A. J. Campau*  
Director

A.J.Campau/DL

NOTE: "GMC - Org - Gen Purch Com - Detroit - Contracts" is written across top, followed by illegible mark; "Noted F.H." is written in lower left corner. Italics indicate handwriting.

2

(DP)  
GMC-744

4164

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Incorporated  
WILMINGTON, DELAWARE

FABRICS AND FINISHES DEPARTMENT

June 30, 1937

Mr. A. B. Echols, Chairman  
Sub-Committee on Purchases & Sales

FISHER BODY CORPORATION  
Fabrikoid Sales Contract  
July 1, 1937, to March 31, 1938

It is customary for the Fisher Body Division of General Motors to purchase their requirements of leather substitute materials on definite yardage contracts covering periods of from six to eight months.

The current contracts expire today, and quotations are requested on new contracts for a total of 607,000 yards of four different qualities for delivery during the nine months ending March 31, 1938.

It is believed that prices approximately 10% higher than those in the expiring contracts can be obtained, which would show a 129-Sheet profit of 17%, as follows:

Gray Goods	\$114 650
Other Ingredients	31 861
Labor	22 194
Overhead	33 292
Total Factory Cost	\$201 997

1883

Selling Expense-Freight-	
Administrative	18 400
Cash Discount	5 486
Net Receipts	48 397
Gross Sales	\$274 280

—2—

We are covered on gray goods at prices slightly under the current market (shown above) for approximately 75% of the proposed new contract, and can purchase the remainder promptly upon execution of the contract.

The other two important ingredients are smokeless powder and castor oil. We are fully covered on the former, and for 20% of the new contract period on the latter. The additional castor oil required to fulfill the contract could be purchased promptly at current market cost of \$7500.

This is not a requirements contract involving any risk of over or under coverage on raw materials. It is for a specified yardage on which we are in position to protect ourselves practically 100% on the required raw materials.

Authority is requested to submit quotations in accordance with the foregoing.

J. J. MOOSMAN  
/s/ J. J. M.

JJM:EEM

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NOTE. At end of document the following notation has been written: "Approved by Committee June 30th."

4166

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Incorporated  
New York, N. Y.

FABRICS DIVISION

June 17, 1937.

MR. J. J. MOOSMANN (2)  
WILMINGTON

CONTRACT FOR RUBBER UPHOLSTERY MATERIAL  
CHEVROLET-COMMERCIAL BODY DIVISION

Chevrolet has asked us to quote on June 20th on their requirements for rubber upholstery material for the Commercial Body Division, from July 1, 1937 to April 1, 1938.

This definitely means that Chevrolet has decided to switch from pyroxylin material to rubber coated material as standard upholstery on commercial work. Newburgh for fifteen years or more has had the pyroxylin business for these trucks, so while the amount of material involved is not definite, our experience with the account is of so many years' standing that we are quite sure that our estimate of 400,000 yards is approximately correct. It makes allowance for some portion of the total purchase which Chevrolet may ask us to ship to the welt manufacturer who does some of the work for these trucks.



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Our estimated cost and net receipts statement is as follows:—

400 000 yards—"Cavalon" #6028

Gray Goods	—	\$115 200
Other Ingredients	—	66 520
Damage	—	13 000
Labor	—	16 400
Overhead	—	26 400
Contingencies	—	2 360
Total Factory Cost	—	<u>\$239 880</u>
Selling Expense, Frt. & Administrative	—	27 000
Cash Discount	—	6 000
Net Receipts	—	<u>27 120</u>
Gross Sales	—	<u>\$300 000</u>

—2—

We are covered for 250 000 yards of the fabric required at 24 cents, leaving 150 000 yards to buy which can be bought at today's market of 28 cents. We used the 28 cent figure as the estimated cost of the entire 400 000 yards in the above calculation.

The only other important ingredient is rubber. We have not purchased any rubber for this specific contract, but the amount required can be bought today at 19½ cents, which is the figure we have used in our calculation.

We have made some allowance for unexpected or unforecastable increases in costs due to labor or other variables over the period of this contract by arbitrarily raising our calculated costs for everything about 1%. In addition,

while we have shown full freight as part of the estimated cost, there is a fair chance that we can get this business on an F. O. B. Fairfield basis, which would add approximately \$6 000 to the estimated net receipts shown above.

This is extremely desirable business for Fairfield, representing as it does the first important adoption by General Motors of rubber upholstery, and since we have always had the business in pyroxylin coated materials at Newburgh, our only protection against the Company's losing this volume is for Fairfield to be successful in obtaining this award. This business will net Fairfield about 25% over full factory costs, which is approximately the same net that Newburgh has been realizing on the pyroxylin business which it replaces.

The approval of a bid on the above basis is requested.

E. M. FLAHERTY

EMF:me

P. S.

We have discussed with Mr. Staples the possibility of limiting our bid to a maximum of 400 000 yards and while Chevrolet has never in the past agreed to any such restriction he is willing to try it this time, so we will bid on this basis.

E. M. F.

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Note. "J. J. M." stamped at top of document. "J. J. M. - I gave one copy to W.R. 6/17 - E.M.F." is written and crossed out at top. An illegible handwritten word appears to the right of Mr. Moosmann's name on first page. "Received June 16, 1939 F. & F. Dept." stamped at end of document. In lower right corner appears gmc - 964 in writing.

4169

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE  
FABRICS AND FINISHES DEPARTMENT

January 15, 1940

MR. A. B. ECHOLS  
CHAIRMAN, SUB-COMMITTEE

CHEVROLET MOTOR CO.

It is customary for Chevrolet to require semi-annual contracts covering their requirements of finishing materials. The present contract originally was made for the six months ending January 31st, but last October was extended with Sub-Committee approval to cover a total of 666,000 cars of the 1940 model.

Present indications are that the 666,000 cars will be produced by April 15th, and Chevrolet are now asking for a contract covering their requirements during the remaining 3-½ months of the normal six months contract period. Quantities are estimated as follows:

\$290 000	Duco
105 000	Dulux
220 000	Other Finishes
<hr/>	
\$615 000	Total

No price changes are proposed on Duco and Dulux, due to general market and competitive situations on these products, but on Other Finishes prices will be advanced to offset increased costs of China Wood Oil and substitutes

(DP)  
GMC-731

therefor. The total of \$615,000 sales is estimated to yield a 129-Sheet Net of \$128,000, equivalent to about 20%.

Present stocks and purchase contracts are sufficient to cover all of the raw materials that will be required.

It is therefore recommended that authority be granted to extend our sales contract with Chevrolet to cover their requirements of finishing materials for the remainder of the six months period ending July 31, 1940, estimated at \$615,000.

J. J. MOOSMANN

JJM:EEM

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NOTE. The stamp "Received Jan 16 1940 Treasurer's Dep't" and the handwritten note "Noted J. L. B." appear in upper right corner. "Approved by A. B. Echols 1-16-40 G. F. A." written in lower left corner.

E



Date July 17, 1941

4171

TO: CHAIRMAN, SUB-COMMITTEE ON PURCHASES & SALES

FROM: FABRICS & FINISHES DEPARTMENT - AUTOMOTIVE FINISHES DIVISION

**REQUEST FOR MEETING**  
**TO CONSIDER CONTEMPLATED SALES CONTRACT**

1. WHEN MEETING REQUESTED - July 18th, 1941
2. PRODUCT INVOLVED - Paint, Varnish, Lacquers and Thinners.
3. DURATION OF CONTRACT - August 1, 1941 to January 31, 1942, inclusive.
4. NAME OF BUYER - Chevrolet Motor Division of General Motors Corporation.
5. AMOUNT INVOLVED - UNITS - 1,165,000 gallons  
DOLLARS - \$1,390,000
6. PRICE - At prices averaging \$1.19 per gallon  
ADJUSTMENT ALLOWED SELLER - No price adjustment or escalator clause.  
PRICE PROTECTION ALLOWED BUYER - Prices fixed for duration of contract.
7. CANCELLATION PRIVILEGES - Buyer has right to cancel forthwith in event of unauthorized publicity of buyer's use of seller's products, or for any breach of terms.  
  
Seller shall not be responsible for delays or defaults in deliveries, nor the buyer for failure to receive, if occasioned by wars, strikes, fires, the act of God or the public enemy, labor or transportation difficulties or other causes beyond their control.
8. ESTIMATED NET RECEIPTS FROM SALES - \$305,000 or 22% of sales.  
(before Undistributed Expense)
9. ADDITIONAL PERMANENT INVESTMENT REQUIRED - None
10. RETURN ON INVESTMENT - 29.4%  
(before Undistributed Expense) *22% after 11 and 12%*
11. RAW MATERIALS COVERAGE - 37% of dollar value of raw materials are on hand, 22% contracted for, and 19% manufactured by other Departments, principally Krebs. Coverage can be arranged promptly for the remaining 22%.
12. COMMENTS OF A PERTINENT NATURE - Contract is for approximately 100% of Chevrolet paint requirements for duration of contract, and is in accordance with Chevrolet's regular contract procedure with all suppliers.

ACTION BY SUB-COMMITTEE

PERSON MAKING REQUEST

*J. Moosman*

4172

November 2, 1948

**SUMMARY OF DU PONT PURCHASES FROM AND SALES TO  
GENERAL MOTORS CORP.  
And Subsidiaries for the Years 1938 to 1947 inclusive and Seven Months 1948**

**PURCHASES**

	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948 (7 Mos)</u>
	\$ 46,933	101,312	229,032	217,277	90,141	42,843	52,113	73,278	146,449	301,666	268,678

**SALES**

Explosives	\$ 227	8,896	16,023	12,139	15,460	16,570	26,456	38,018	22,497	26,032	21,082
Fabrics & Finishes	8,854,644	9,861,701	13,979,453	15,719,153	2,585,294	3,104,025	3,529,893	4,221,615	12,541,159	22,639,885	14,257,069
Organic Chemicals	96,340	138,709	140,818	170,701	160,009	174,036	95,631	55,540	69,532	83,254	58,810
Electrochemicals	160,609	286,711	355,604	746,029	412,631	1,097,775	1,045,111	876,760	826,779	1,019,272	546,804
Ammonia	302,571	415,920	851,477	770,735	419,883	679,909	412,853	523,164	691,731	1,742,416	229,918
Miscellaneous	49,548	5,353	8,869	9,656	14,236	8,602	7,513	15,422	18,167	4,692	27,659
Rayon	3,749	6,684	931	6,921	1	—	—	712	40	—	—
"Cellophane"	—	—	14,915	13,465	14,494	23,872	46,253	24,542	23,223	45,565	25,774
Nylon	—	—	382	1,766	92	—	—	—	116	51	—
Grasselli	353,953	448,574	605,428	706,329	333,190	519,128	482,117	451,558	753,062	1,024,320	703,197
American Zinc	5,701	10,485	13,544	32,721	1,782	—	844	—	—	—	—
Plastics	98,943	202,370	134,717	48,606	191,263	266,205	723,406	354,626	129,479	105,422	72,982
Pigments	587	140	712	1,650	465	120	1,639	1,892	3,931	3,530	84
Photo Products	8,424	8,475	12,512	21,578	2,780	114	104	2,188	2,502	867	34

7,887,296 11,993,618 16,135,385 18,261,444 4,151,380 6,090,356 6,370,976 6,566,027 15,082,168 26,695,706 15,953,413

TRADE ANALYSIS DIVISION

Inf. for Mr. O. A. Provost  
Legal Department

[1891]

Kb-pr-vs-e

4173

GENERAL MOTORS CORPORATION

FINANCE COMMITTEE

Minutes of meeting No. 116, held at the office of the Corporation, No. 224 W. 57th St., New York City on May 4, 1926, at 3:00 P.M.

PRESENT: J. J. Raskob, Chairman  
George F. Baker, Jr.  
Donaldson Brown  
H. F. duPont  
Lanimot duPont  
P. S. duPo  
Fred J. Fisher  
Seward Prosser (for part of meeting)  
A. P. Sloan, Jr.

Also John Hertz (for part of meeting)

ABSENT: Irene duPont  
Junius S. Morgan, Jr.  
George Whitney

\* \* \*

CONSOLIDATION OF FISHER BODY CORPORATION  
AND GENERAL MOTORS CORPORATION:

Reports were received from the Chairman dated April 28th, 1926 (#1489) and April 29th, 1926 (#1487) with respect to the advisability and cost of General Motors Corporation purchasing the assets, business, property and good will of the Fisher Body Corporation as a going concern, and assuming its liabilities.

1892



The Chairman advised that said purchase had already been informally approved by a majority of the members

—2—

of the Finance Committee and also by stockholders of Fisher Body Corporation owning sufficient stock to guarantee completion of the consolidation along the lines of the following resolution, which resolution, upon motion, was adopted (Mr. Fred J. Fisher not voting), the above mentioned reports being accepted and ordered filed:

WHEREAS, is it deemed advisable for General Motors Corporation to purchase the assets, business, property and good will of Fisher Body Corporation as a going concern, and to assume its liabilities,

NOW, THEREFORE, BE IT RESOLVED, that this Committee recommend to the Board of Directors that they authorize and empower the proper officers of the Corporation to make said purchase and to pay therefor 1,600,000 shares of the common stock of General Motors Corporation on the basis of one share of General Motors common stock for each one and one-half shares of the capital stock of the Fisher Body Corporation, the assets of Fisher Body Corporation to be taken over as of June 30, 1926, and the General Motors common stock to carry all dividends declared payable to common stockholders of record on or after June 30, 1926, such purchase to be made in proceedings for the dissolution of Fisher Body Corporation. (Note: The General Motors Stock will not carry dividends declared payable June 12 and July 2, 1926—added per H. Howe, 5-28-26).

\* \* \*



# FISHER BODY CORPORATION

1175

Detroit, Michigan, May 17, 1928.

## TO THE STOCKHOLDERS OF FISHER BODY CORPORATION:

(General Motors Corporation (hereinafter referred to as General Motors) has made an offer to purchase all of the assets of Fisher Body Corporation (hereinafter referred to as Fisher Body), such purchase to be made in proceedings for the dissolution of Fisher Body pursuant to the New York laws, and to pay therefor 1,000,000 shares of General Motors common stock and in addition to assume all obligations and liabilities of Fisher Body. A copy of such offer is enclosed herewith.

In 1919 General Motors acquired a sixty per cent. (60%) interest in the common stock of Fisher Body and at the same time entered into a ten-year contract for its automobile body requirements. As you are aware, this contract has been exceedingly profitable to Fisher Body, and at the present time about 90% of its business consists of bodies made for General Motors.

In 1919 less than twenty-five per cent. (25%) of the automobiles put on the market were equipped with closed bodies. Today ninety per cent. (90%) are so equipped. The closed body business has thus reached a point where its future growth can be very little greater than the growth of the automobile business.

As the contract made with General Motors in 1919 has but a relatively short term remaining, your officers and directors have given serious thought to the future prospects of Fisher Body. In 1929 a new contract must be negotiated, or General Motors will be free either to build its own bodies or purchase them elsewhere. In view of these facts and in order to fully ascertain and provide for the conditions which might have to be met by Fisher Body upon the expiration of the present contract, many conferences have been had with officials of General Motors, and as a result of such conferences your Board of Directors received the offer mentioned in the first paragraph of this letter.

Your officers and directors have carefully considered the offer, which in effect results in a plan for the consolidation of the two corporations and gives the stockholders of Fisher Body an opportunity to acquire an interest in the business of General Motors as well as the business now conducted by Fisher Body. The price offered will yield to each stockholder who accepts it substantially the present market value, and greatly in excess of the book value of his stock.

The effect of the proposed transaction will be that each stockholder of Fisher Body will receive two-thirds of a share of General Motors common stock for each share of Fisher Body common stock. On the basis of the current earnings of the two companies, the amount earned on the General Motors stock received by a stockholder of Fisher Body who avails himself of the offer will be substantially greater than that earned on his stock in Fisher Body.

The holders of over 85% of the total outstanding capital stock of Fisher Body, and of over two-thirds of such stock other than the stock held by General Motors, have already signified their approval of the proposed plan. The Messrs. Fisher, Mendelssohn and other large stockholders, as well as all of the officers and directors of Fisher Body, approve and recommend this plan as being in the best interests of the stockholders.

The Board of Directors of Fisher Body have called a special meeting of the stockholders to consider the plan outlined herein and to take appropriate corporate action thereon. This meeting is to be held at the office of the Corporation Trust Company, No. 129 Broadway, New York City, on June 3, 1928, at 2.00 o'clock in the afternoon as shown by notice of such meeting enclosed herewith.

If you cannot be present in person you are requested to promptly execute the enclosed proxy and return it in the stamped and addressed envelope sent you herewith so that as large a proportion as possible of the outstanding capital stock will be represented at such meeting.

Stockholders will be notified in due course when the certificates for the common stock of General Motors distributable to them pursuant to the proposed plan will be ready for delivery, and will then be asked to make deposit of their stock with some designated depository or depositarian.

In order of the Board of Directors

LOUIS MENDELSSOHN,  
Chairman of the Board.  
WILLIAM A. FISHER,  
President.

AARON MENDELSON,  
Secretary.

1894

4176

Detroit, Michigan, June 30, 1926.

*To Stockholders of Fisher Body Corporation:*

Fisher Body Corporation has been dissolved pursuant to Article 10 and Section 105 of the Stock Corporation Law of New York. You are hereby notified that, in accordance with said Article 10 and Section 105, all of the assets of said corporation have been sold and transferred to General Motors Corporation on this date, pursuant to the offer of General Motors Corporation, dated May 13, 1926, in exchange for 1,600,000 shares of common stock of General Motors Corporation fully paid and non-assessable, entitled to all dividends declared payable to common stockholders of record on and after June 30, 1926.

Certificates for the shares of said common stock of General Motors Corporation deliverable in distribution in exchange for shares of common stock of Fisher Body Corporation at the rate of one (1) share of common stock of General Motors Corporation for each one and one-half ( $1\frac{1}{2}$ ) shares of common stock of Fisher Body Corporation are now available for delivery to stockholders of Fisher Body Corporation upon delivery of certificates for their stock endorsed in blank, or accompanied by a stock transfer power executed in blank, at the Stock Transfer Office, General Motors Corporation, 224 West 57th Street, New York City, which will act for the directors of Fisher Body Corporation in making such distribution. The transfer books of Fisher Body Corporation will close on July 15, 1926.

Unless otherwise requested, only one certificate will be issued to each shareholder, and such certificate will be in the name of the holder of common stock of Fisher Body

Corporation as it appears on the certificate surrendered. No fractional shares of common stock of General Motors Corporation shall be deliverable. To adjust such fractional shares, General Motors Corporation will *until further notice* purchase any such fractional share or at your option will sell to you any fractional share requisite to make up full shares, in either case at the closing bid price per share of General Motors Corporation common stock on the New York Stock Exchange on the business day next preceding the purchase or sale of such fractional share. In the case of each stockholder, General Motors Corporation will buy or sell only one-third or two-thirds of a share of its common stock as may be required to avoid issuing fractional shares of said stock.

Certificates for common stock of Fisher Body Corporation endorsed in blank or accompanied by a stock transfer power executed in blank, should be delivered or sent by registered mail to the Stock Transfer Office, General Motors Corporation, 224 West 57th Street, New York City, forthwith, together with the enclosed form filled out to indicate your option as to such purchase or sale of any fractional share of the common stock of General Motors Corporation to which you may be entitled.

If common stock of General Motors Corporation is to be issued in the name of another person (a) the full name and address of the person in whose name the shares are to be issued should be set forth on the enclosed form, (b) the signature of the stockholder to the assignment on the back of the certificate for common stock of Fisher Body Corporation should be guaranteed by a national bank or trust company located in, or having a correspondent bank or trust company in, New York, or by a New York Stock Exchange

firm, or acknowledged in regular form with a County Clerk's certificate attached, certifying to the notary's signature and authority, and (c) certificates for common stock of Fisher Body Corporation should be accompanied by 4 cents in New York funds for each share of the common stock of General Motors Corporation so to be issued, which amount is necessary to cover New York State and Federal transfer taxes.

In case you have already delivered your certificates for shares of common stock of Fisher Body Corporation for exchange you should deliver or mail the enclosed form to General Motors Corporation to indicate your option as to the purchase or sale of fractional shares.

FISHER BODY CORPORATION,

by W. A. FISHER,  
President.

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NOTE: In the upper right hand corner appears the handwritten words "GMC—Taxes Fisher Body Acquisition".



4179

( COPY )

GENERAL MOTORS CORPORATION.

Broadway at 57th Street  
NEW YORK

July 12, 1927

Walter S. Carpenter, Jr., Treasurer,  
General Motors Securities Company,  
DuPont Building,  
Wilmington, Delaware.

Dear Walter,—

We should like to borrow from the General Motors Securities Company 247,600 shares of General Motors Corporation common stock in order to enable us to complete payment for the purchase of the Fisher Body Company of Ohio. If, therefore, you will loan us 247,600 shares of General Motors common stock, represented by certificate for this number of shares in the name of the General Motors Securities Company with properly executed power of attorney attached, we will guarantee to return this same certificate to you very shortly and after it has served the purpose of the above transaction.

This request is exactly in line with a similar request we made of you some time ago for the loan of some General Motors common stock to complete the purchase of the assets of the Fisher Body Company of New York.

Sincerely yours,

(s) J. J. RASKOB  
CHAIRMAN

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NOTE: "GMC 1630 B" is written in lower left corner:  
"RETURN TO EXECUTIVE COMMITTEE ROOM  
9069" is stamped at bottom.

**EXTRACT FROM MINUTES OF REGULAR MONTHLY MEETING**

**BOARD OF DIRECTORS • JULY EIGHTEENTH, 1927**

**E. I. DU PONT DE NEMOURS & CO.**

**LOAN TO GENERAL MOTORS CORPORATION OF 247,600  
SHARES OF GENERAL MOTORS CORPORATION COMMON  
STOCK BY GENERAL MOTORS SECURITIES COMPANY:**

The Chairman presented a communication dated July 12, 1927 from Mr. J. J. Raskob, Chairman of the Finance Committee of General Motors Corporation, addressed to General Motors Securities Company, requesting that the last named Company lend to General Motors Corporation 247,600 shares of the common stock of General Motors Corporation to enable General Motors Corporation to complete payment for the purchase

by it of the Fisher Body Company of Ohio, said stock being loaned with the understanding and agreement of General Motors Corporation that it will be returned within the period of 30 days from the date thereof.

The following resolution was offered and unanimously adopted:-

RESOLVED, that this Company recommend to General Motors Securities Company that it lend to General Motors Corporation for a period of 30 days 247,600 shares of the common stock of General Motors Corporation, registered in the name of General Motors Securities Company, in compliance with request made by Mr. J. J. Raskob, Chairman of the Finance Committee of General Motors Corporation dated July 12, 1927, addressed to General Motors Securities Company; and

RESOLVED FURTHER, that Mr. W. S. Carpenter, Jr., Vice-President, be and is hereby authorized and directed to transmit this recommendation to General Motors Securities Company.

4181

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

ADVICE OF ACTION

October 20, 1931

Copy to:

Mr. J. B. Eliason

Mr. A. B. Echols

Mr. Donaldson Brown, Vice-President,  
General Motors Corporation

SUBJECT QUESTION OF ADDITIONAL INVESTMENT IN THE  
COMMON STOCK OF GENERAL MOTORS COR-  
PORATION:

ACTION TAKEN BY: Finance Committee

AT MEETING: October 19, 1931

REMARKS

Mr. Donaldson Brown orally reported to the Committee that it had recently come to his attention that a group of very large stockholders of General Motors Corporation would shortly be compelled to dispose of from 500,000 to 700,000 shares of the Common Stock of that Corporation, and spoke of the detrimental effect of having such a large block of stock placed for sale in the open market. He further advised that it is possible that quite a substantial part of this stock might be acquired by the Opel group of Germany at a price of \$24.00 a share or less.

1905

4182

After full discussion of this matter, it was moved and unanimously carried that Mr. Brown be advised it is the sense of the Finance Committee that the duPont Company would be willing to purchase up to 200,000 shares of the aforesaid block of General Motors Corporation Common Stock provided the Opel group will acquire approximately 300,000 shares, it being the feeling of the Finance Committee that a price of not to exceed \$24.00 a share, and not to exceed the price paid by the Opel group, would be satisfactory.

*M D Fisher*

Sec'y Finance Committee

29

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NOTE: "gmc 1098" is written in lower right corner; check mark appears opposite "J. B. Eliason"; "152.16", preceded by a paragraph sign, is written in upper right corner; what appears to be "Art 29" with a circle around the "29" is written at top. Italics indicate handwriting.

21

2



4183

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

October 22, 1931

Copy to:

Mr. A. B. Echols

Mr. J. B. Eliason

Mr. Donaldson Brown, Vice-President,  
General Motors Corporation,  
Broadway at 57th Street,  
New York, N. Y.

QUESTION OF ADDITIONAL INVESTMENT IN COMMON  
STOCK OF GENERAL MOTORS CORPORATION:

Referring to my letter of the 20th, advising as to action taken by the Finance Committee on the above subject at meeting held on the 19th:

This is to inform you that I have been advised by the President that since the aforesaid action was taken a majority of the members of the Finance Committee have approved the purchase by duPont of up to three hundred thousand (300,000) shares of the block of G.M.C. Common stock in question, with the understanding that the Opel group will acquire approximately two hundred thousand (200,000) shares of the same block, the price to be the same as that quoted in the October 19th action.

*M. D. Fisher*

Sec'y Finance Committee

29

NOTE: "gmc 1097" is written in lower right corner; check mark appears after "J. B. Eliason"; "152.16", preceded by a paragraph sign is written in the upper right corner. Italics indicate handwriting.

4184

J. P. MORGAN & CO.  
Wall St corner Broad  
New York  
DREXEL & CO.  
Philadelphia  
MORGAN GREENFELL & CO.  
London  
MORGAN & CIA  
Paris

*New York*, October 29, 1931.

PRIVATE AND CONFIDENTIAL

W. S. Carpenter, Jr., Esq., Vice President,  
E.I. du Pont de Nemours & Company, Inc.,  
Wilmington, Delaware.

Dear Sir:

Referring to your letter of October 27th, addressed to Mr. Francis D. Bartow in connection with the purchase through us of 300,000 shares of General Motors Corporation common stock, we have today charged your account on our books \$7,200,000, being the purchase price of these shares.

In accordance with your instructions, we have delivered to Mr. A. B. Hull the certificates representing the above shares.

Yours very truly,

*J. P. Morgan & Co.*

July 6, 1933

TO: FINANCE COMMITTEE

FROM: TREASURER

4185

GENERAL MOTORS COMMON STOCK

We originally purchased General Motors common from the Fisher Brothers -

300,000 shs. @ \$24.00 per share \$7,200,000.00

Subsequently, there was transferred to our so-called permanent investment in General Motors

18,780 shs. @ \$16.90 per share 317,362.00

Leaving a balance remaining of

281,220 shs. at an average price of \$24.47+ per share \$6,882,618.00

Acting under authority granted at your meeting on May 15, 1933, there has been sold

46,000 shs. (book value \$24.47 +) 1,125,810.50

Leaving a balance at close of business July 5, 1933, of

235,200 shs. (at average price \$24.47 +) 5,756,807.50

The shares sold were at prices ranging from 24-1/2 thru 30-1/8, for a total of \$1,250,917.50

Book value of shares sold . . . . . 1,125,810.50

Profit. . . . . \$ 125,107.00

*J. B. Fisher*  
J. B. Fisher

NOTE: Date in "RECEIVED" stamp is "JUL 7 1933". Handwritten initials in lower left corner are: "W.F.R."

*Jmc-588*

Government's Exhibit No. 515

November  
29th  
1935

4186

TO: FINANCE COMMITTEE

FROM: TREASURER

ACQUISITION OF ADDITIONAL GENERAL  
MOTORS CORPORATION COMMON STOCK.

On October 29th, 1931 the Company acquired 300,000 shares of General Motors Corporation Common stock at \$24 a share. 218,780 shares out of this purchase are now owned by the Company. 200,000 of these shares are regarded as current and temporary investment while 18,780 of the shares have been identified with our permanent investment in 10,000,000 shares of General Motors Corporation Common stock.

At their meeting November 18th, 1935, the Directors authorized the distribution of these 200,000 shares as a special dividend to the stockholders in the ratio of  $1/55$  of a share of General Motors Corporation Common stock for each share of the common stock of this Company. This dividend on our Common stock will require 200,950 and  $52/55$  shares, all of which is to be paid from the stock purchased October 29th, 1931.

After payment of this dividend, it will be desirable for us to purchase 950 and  $52/55$  shares in order to maintain our investment in General Motors Corporation Common stock at the round 10,000,000 share figure. It is accordingly recommended that your Committee pass the following resolution:



4187

RESOLVED, that the Treasurer of this Company be and he is hereby authorized to purchase in the name of E. I. duPont de Nemours & Company on or after December 27<sup>th</sup>, 1935, 950 shares of the Common stock

—2—

of General Motors Corporation and receipt or receipts representing fractional interest or interests aggregating  $\frac{52}{55}$  of a share of the common stock of General Motors Corporation.

*J. B. Eliason*

J. B. ELIASON

\*—

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NOTE: "gmc-895" is written in lower right corner of both pages; "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped at bottom of first page; "Finance Committee Secy's No. 3643" is stamped in upper right of first page; "Received M.D.F. Dec 2 1935" is stamped at top of first page (with a "2" inserted by hand before "M.D.F."). Italics indicate handwriting.

4188

March 20, 1918.

To—HEADS OF DEPARTMENTS

PURCHASE OF MOTOR EQUIPMENT:

At meeting of the Executive Committee, held on the 19th inst., the following resolution was unanimously adopted:

"RESOLVED, that the Heads of Departments of this Company be advised that the du Pont Company has acquired a very substantial interest in the General Motors and Chevrolet Motor Companies, and that it is the wish of the Executive Committee that all motor equipment purchased in the future for this Company be of General Motors or Chevrolet manufacture."

Sec'y. Executive Committee.

Messrs. P.S. duPont  
 Alexis I. duPont  
 J.J. Raskob  
 C. Copeland  
 Frank Turner  
 E.N. Wead  
 Lamot duPont  
 H.G. Haskell  
 Irene duPont

*F.L. Connable*  
*H.M. Barksdale*  
 H.F. Brown  
 C.L. Reese  
 H.M. Pierce  
 Wm. Coyne  
 F.G. Tallman  
 J.P. Laffey  
 Daniel Cauffiel  
 R.R.M. Carpenter  
 E.G. Buckner

C.M. Barton

NOTE: "X-1100" is written at top. Check mark by hand appears in front of each name at bottom. Italics indicate handwriting.

July 23, 1918.

## HEADS OF DEPARTMENTS:

PURCHASE OF MOTOR EQUIPMENT:

Referring to the following resolution adopted by the Executive Committee at meeting March 19, 1918, in connection with the above-mentioned subject:-

"RESOLVED, that the Heads of Departments of this Company be advised that the du Pont Company has acquired a very substantial interest in the General Motors and Chevrolet Motor Companies, and that it is the wish of the Executive Committee that all motor equipment purchased in the future for this Company be of General Motors or Chevrolet manufacture."

At Executive Committee meeting July 22nd, it was moved and unanimously carried that the various Departments be advised that they are expected, if practicable, to purchase equipment of General Motors manufacture, but in special cases where such procedure is not practicable the Departments are expected to use their own judgment in the matter.

/s/ M. D. Fisher  
Sec'y. Executive Committee.

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NOTE: "Return to Executive Committee Room 9069"  
is stamped at bottom and "X-1100" is written at top.

## Government's Exhibit No. 518

December 6, 1923.

TO — HEADS OF DEPARTMENTS

FROM— SECRETARY

<i>W.P.A.</i>	<i>WSC Jr</i>	<i>JJR</i>
<i>JFB</i>	<i>HMP</i>	<i>CC</i>
<i>HG.</i>	<i>CLR</i>	<i>JBE</i>
<i>FBD.</i>	<i>CFB</i>	<i>CMB</i>
<i>AFduP</i>	<i>WBF</i>	<i>Gd.AB</i>
<i>WFH</i>	<i>FS</i>	<i>HG. for F.V.&amp;C.W.</i>
<i>JBDE.</i>	<i>PSduP</i>	<i>H.G. for Am Glyc. Co</i>

MOTOR EQUIPMENT—PURCHASE OF

At meeting of the Executive Committee held yesterday, the following resolution was unanimously adopted:

X-5

"RESOLVED, that the actions taken by this Committee under date of March 19, 1918 and July 22, 1918 regarding purchase of motor equipment be rescinded and that the various Departments of this Company be advised that they are expected, other things being equal, to purchase equipment of General Motors manufacture."

The actions taken by the Committee under date of March 19, 1918 and July 22, 1918 were as follows:

March 19, 1918:

"The following resolution was unanimously adopted:-

RESOLVED, that the Heads of Departments of this Company be advised that the duPont Company has acquired a very substantial interest in the General Motors and Chevrolet Motor Companies, and that it is the wish of the Executive Committee that all motor equipment purchased in the future for this Company be of General Motors or Chevrolet manufacture."



4191

July 22, 1918:

"It was moved and unanimously carried that the various Departments be advised that they are expected, if practicable, to purchase equipment of General Motors manufacture, but in special cases where such procedure is not practicable the Departments are expected to use their own judgment in the matter."

M. D. FISHER

Sec'y. Executive Committee.

23.

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NOTE: Italics indicate handwriting. "X-1100" is written at top and "Return to Executive Committee Room 9069" is stamped at bottom.

4192

~~Government~~

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)  
PRODUCTION DEPARTMENT  
WILMINGTON, DELAWARE

EXPLOSIVES MANUFACTURING DEPT.

January 15, 1921.

File ED— EHF.

Mr. H. R. Kinsley, Asst. to Pres.

Copies to:

Mr. Lammot duPont

Mr. L. P. Mahony, Dir. of Sale

**MOTOR TRUCKS:**

Mr. Lammot duPont just called me up and told me that from a conversation with Mr. Beardsley of the General Motors Corporation in New York, he had learned that you were in the market for a new truck. Also that you had a truck in service of other make than that of General Motors'. He drew my attention to a decision that was arrived at some two years ago, that whenever practicable, General Motors' trucks should be used by this company. Wherever impracticable, the decision of using equipment of other makes was left to the heads of the Departments. Mr. Beardsley told Mr. duPont that the Scranton Agent of the General Motors had made a proposition upon a truck and you had turned it down and decided to purchase one of another make.

4193.

I believe, if you have not yet made the purchase, that it would be well for you to present to us your reasons for not using General Motors' equipment and for desiring to make this purchase. The Divisional Council (the new form of *obtain from Dept. Head* control) would then consider your reasons and ~~give~~ you, <sup>or</sup> withhold, the necessary permit.

*have*

If you <sup>^</sup> made the purchase, this advice will undoubtedly guide you in future transactions.

It is very obvious that duPont Co. ought to be able to use the equipment of the corporation in which it is so

—2—

largely

interested. If their trucks are not adequate for our use, they should be advised as to their deficiency. I am sure that your President will agree in this feeling. At any rate, we should follow the order of the Executive Committee in this matter and perhaps you were not advised at the time it was made; but please understand now that they did make this ruling and that we should be governed thereby.

ED. H. FORD, ASST. DIRECTOR.

EHF-P

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NOTE: Italics indicate *handwriting*. A handwritten arrow points to Mr. Lammot du Pont's name at top of first page and lines are drawn through the name of the addressee. "Received Jan 17 Lammot du Pont" is stamped at top of first page. "Return to Executive Committee Room 9069" is stamped at bottom of each page. "X-1100" and "8" (with a large check mark) are written at top of first page. "GMC 1527" is written at bottom of each page.

2  
E

4194

**E. I. DU PONT DE NEMOURS & COMPANY  
OF PENNSYLVANIA**

**ADDRESS ALL COMMUNICATIONS  
TO THE COMPANY**

**REFER TO OUR FILE NO. 2621**

SCRANTON, PA., January 17, 192

**TO: ED. H. FORD, ASST. DIRECTOR,**

**FROM: SCRANTON.**

**AUTO TRUCKS. YOUR LETTER JANUARY 15th.**

We note with interest what you say in regard to conversation of Mr. Lamotte DuPont with Mr. Beardsley of the General Motors Corporation. The matter of the truck in question was one of replacement and not additional new equipment. We had on hand a Maccar truck which was worn out and upon which the repairs would have cost more than it would have been worth to us. It was decided therefore to replace this with a new one. The proposition was submitted to the General Motors agent here and naturally also to the Maccar people. The Maccar truck is assembled in Scranton. We have several of them in our Division.

The General Motors agent knew just what the proposition was, and upon submission of their terms we found that they did not compare with those submitted by the Maccar for this replacement. As we know what the Maccar truck can do here, and as it was a better business proposition, we of course accepted the Maccar offer.



In this connection would say that the General Motors people here did not make as good an offer as they could have done. We know this from what they told outside afterwards. We feel in this division that it is up to us to make as good terms on purchases of equipment as possible. We do not feel that the General Motors agents are entitled to any particular advantages if they don't appreciate the situation.

At any time that we are in the market for entirely new equipment we will of course consider that we should buy General Motors products, but in replacement propositions, if it is possible to get better terms from manufacturers whose trucks are up for replacement we think it good business to accept those better terms.

*H. R. Kinsley*

ASST. TO PRESIDENT.

HRK

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NOTE: "Return to Executive Committee Room 9069" is stamped, and "GMC 1528A" is written, at bottom of page. Italics indicate handwriting.

4196

E. I. DU PONT DE NEMOURS & COMPANY

(INCORPORATED)

PRODUCTION DEPARTMENT

WILMINGTON, DELAWARE

EXPLOSIVES MANUFACTURING DEPT.

January 19, 1921.

File ED— EHF.

Copies to:

Mr. Lamont duPont

Mr. L. P. Mahony, Dir. Sales

Mr. A. J. Abrams.

MR. G. D. A. BELIN, PRES.

AUTO TRUCKS:

Mr. Kinsley's letter Jan. 17, 1921

Your file 2621. ✓

I beg to thank you for yours of above date. It was read at the Council Meeting held this morning. The consensus of opinion was (Mr. Mahony being absent from the meeting) that even replacements should be made with General Motors' products and that such was the intent of the Executive resolution. A few instances in the past were referred to by the Purchasing Department's representative; the decisions in the cases confirmed this.

4197

However, I will discuss this matter with you when you come on for the next meeting. I am sure that we will do nothing in the future which will merit censure.

ED. H. FORD, ASST. DIRECTOR.

EHF-p

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NOTE: A handwritten arrow points to Mr. Lammot du Pont's name at top and "Received Jan 20 Lammot du Pont" is stamped at top of page. "X-1100" is written at top of page and "Return to Executive Committee Room 9069" is stamped at bottom of page. "GMC 1528" is written at bottom of page. A large check mark appears at the top center of the page.

Form 12120-0000 5 19

**E. I. DU PONT DE NEMOURS & Co.**  
INCORPORATED

WILMINGTON, DELAWARE

EXPLOSIVES MANUFACTURING DEPARTMENT

VICE-PRESIDENTS OFFICE

November 4, 1921  
File L-227.

MESSRS. A. F. L. JUPONT  
J. THOMAS BROWN  
J. C. MC COY  
L. H. FORD  
H. I. STARK

L. P. MAHONY  
L. O. BRYAN  
H. R. CALVIN  
K. K. V. CASH  
F. L. BRADLEY

For your information, I am enclosing herewith copy of letter which I have just sent out to all the Sales Managers, Plant Managers, and Plant Superintendents of this Department.

I feel that whenever we can say a good word about any General Motors product and encourage a possible sale thereby, we should do so. I also feel that everyone in this Department agrees with me in that the products turned out by the General





November 3, 1921.

I am enclosing herewith extract from a letter which was written by Mr. Pierre S. duPont, President of the General Motors Corporation, to all of the Corporation's stockholders. You probably have seen this letter. However, when I read it the thought struck me that as the duPont Company owns a very large block of the General Motors Corporation's stock, it might be in order for me to write to a few of this Company's important employees with the object in view of encouraging, through them to their assistants and to any employees with whom they may come in contact, a feeling which would encourage the boosting of General Motors products whenever there is an opportunity.

The General Motors Corporation turns out, as we all know, a complete line of very high-class cars, any one of which is, in my opinion, superior to other cars at or near their prices; and I feel that each and every one of us can honestly and proudly help all of our friends who are handling the Chevrolet, Oakland, Buick, Oldsmobile, and Cadillac passenger cars, or the Chevrolet, Oldsmobile and G.M.C. commercial cars, by encouraging the purchase of one of these makes whenever and wherever the opportunity offers.

GENERAL MANAGER.

EAH.

November 1st, 1921.

4200

TO THE STOCKHOLDERS:

There are 133,500 in the General Motors immediate family—68,000 stockholders, 53,000 employees, and 12,500 dealers and distributors. All are financially concerned in the success and the prosperity of the Corporation. And there are many others interested besides the immediate members of the family.

Since 1909 the Corporation has produced over two million passenger and commercial cars, of which approximately 72% are now in use in this country. As there are over nine million motor cars in this country, one out of every six is a General Motors product.

Members of the immediate family share in the profits from every sale. The dealers and distributors receive commissions, the employees their wages, the stockholders their dividends; obviously, the greater the number of cars sold, the larger the amount of money available for these purposes. Users of General Motors cars also benefit because behind the product is the strength of a financially successful institution.

Employees and Stockholders are potential missionaries for General Motors, the institution—and users of General Motors cars are word-of-mouth advertisers of the products General Motors sponsors. If each of the employees and stockholders would interest himself to the extent of helping to convert but one new buyer a year, sales would be 33% greater and profits accordingly larger.

Pierre S. du Pont,

PRESIDENT.

*gmc-776b*

NOTE: Stamp at upper right corner of first page bears date "JAN 4 1922". Stamp beneath that reads: "GENERAL MANAGER PYRALIN DEPARTMENT RECEIVED JAN 14 1922". At lower right corner of third page, handwriting reads: "gmc-776b".





4201

E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

Jan. 20th 1922.

EXPLOSIVES DEPARTMENT

Copy to:

Mr. Irene du Pont

Mr. Alfred P. Sloan, Jr.,  
V.P., General Motors Corporation,  
224 West 57th st.,  
New York City.

Dear Sir:-

Your letter, dated January 13th, addressed to Mr. Irene du Pont, on the subject of the possible purchase by us of five 3/4-ton Sampson trucks, has been referred to me for attention.

In the first place, I wish to advise you that for some time past this Department has given positive orders to the effect that nothing but General Motors trucks and cars are to be purchased by any of our divisions, unless specific authority to the contrary is given by the Head of the Department.

We have a number of General Motors trucks, and a few Chevrolet trucks, together with fifteen or twenty Ford trucks which have been in use for some years. When the Ford trucks are replaced the new trucks will be General Motors products, although we cannot approve of their replacement by the Sampson truck where the transportation of explosives is concerned. This is on account of our ruling that trucks used for the transportation of explosives must be of a type which has the engine well separated from the gasoline tank, it being obvious that if the engine is located practically below the gasoline tank a fire in or about the engine might cause us a great deal of trouble.

For your personal information I wish to state that at present we are having a study made of the cost of operation per mile of the various trucks which we have used in the past and from the rough estimates which the writer has been able to accumulate, it looks as though, from a dollars and cents point of view, we should not use anything but Ford trucks for our light hauling.

When the figures are complete, if the investigation shows that they can be relied upon, I shall submit them to you. However, we want to assure you that, regardless of the figures, it is our intention to replace our trucks and cars, as they are discarded, with a General Motors product.

Yours very truly,

*C. A. Patterson*

GENERAL MANAGER.

Not a Stamp at right, near center, reads: "RECEIVED JAN 23 1922 A. P. SLOAN, JR." Pencil notation at end of last paragraph appears after "A.P.S.", the check mark beneath it after "[Illegible]", and check mark below the first check mark after "A.T.B.", of routing stamp containing the initials "A.P.S.", "J.L.P.", "P.", "[Illegible]", "[Illegible]" and "A.T.B."

4202

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

July 10, 1922.

Mr. C. F. Brown, Director of Advertising.

Attached is a suggestion from Mr. Naylor of the Treasurer's Department. I think the principle is a good one. Could you not draw up a letter which, starting on the idea of boosting General Motors sales, would end with a boost for duPont products, and which might be sent out to our employes and stockholders in the form of a letter from the President. Please return the memo with your suggestion.

*Irene duPont*  
Irene duPont

Encl.

*Effect on other car mfgs.*

*Fab*

*Top material*

*Pyr Sheeting*

*Flint*

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NOTE: "GMC 1556" is written in lower right corner.  
Italics indicate handwriting.

4203

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

July 14, 1922.

Mr. W. S. Carpenter, Jr:

I have forwarded the attached to Mr. Brown. He has replied orally that he fears following Mr. Naylor's suggestion would result in a loss of business by duPont that we now enjoy from competitors of General Motors. What do you think of the situation?

enclosure.

Irénée duPont.

NOTE: "GMC 1556a" and "26" is written in lower right corner; "ID-152" is written in upper right corner; "NOTED W. S. C. Jr." is stamped twice at top of page.

For your information, I am enclosing herewith copy of letter which I have just sent out to all the Sales Managers, Plant Managers, and Plant Superintendents of this Department.

I feel that whenever we can say a good word about any General Motors product and encourage a possible sale thereby, we should do so. I also feel that everyone in this Department agrees with me in that the products turned out by the General Motors Corporation are worthy of our best recommendations.

O. V. PATTERSON.

GENERAL MANUSCRIPT.

**02P 21**

W O T F 5  
JAN 12 1921  
E. C. T.

UCK.  
O T F 5  
12 1921  
C. T.  
Pratum gupz  
Pallant  
Lear  
gme-776

1917



*Irene*

*Naylor sent this on to me as  
a suggestion*

4204

W S C Jr.

## MEMORANDUM

June 23, 1922.

### RE. EMPLOYEES PURCHASING GMO CARS.

Having observed that quite a number of employees have purchased this year, cars of other than GMO make, it occurs to me that a letter from the President sent to all employees calling their attention to following points should have the effect of turning the most of future purchases of cars by employees in favor of GMO.

1. The Company's large investment in GMO.
2. 37% of GMO earnings accrue to Du Pont Company, and the larger GMO earnings, the larger will be the amount distributed, resulting in
3. Larger sales of Du Pont Products, larger distribution to stockholders, and larger amounts available for Du Pont Welfare plans (Bonus and Participating Stock Subscription).
4. A "Boost" for GMO is a "Boost" for Du Pont.

Closing with a paragraph asking the employees to give same support to increasing GMO sales as they would to sale of Du Pont products.

G. L. NAYLOR.

• "Good [followed by an illegible word]"

NOTE: "GMC 1556b" is written in lower right corner.  
Italics indicate handwriting.

4205

## Cleveland Office

Cleveland, Ohio,  
January 3, 1931.

Mr. Wm. Richter, General Manager,  
Fabrics and Finishes Department,  
Wilmington, Delaware,

Referring to your telegram reading:

"Still feel from Company viewpoint we ought not to buy White truck. Step. We should look at it from viewpoint of considering GM member of family. Step. If GM were duPont subsidiary or duPont department we wouldn't think of buying White truck, would we. Step. Will be in Cleveland with Martin tomorrow and have made another appointment at your office for two o'clock after which we ought to have opportunity to talk about this truck question finally."

I feel you know the interest of the duPont Company is always foremost in the minds of all of our people here; it is, therefore, apparent that we should use nothing but G.M. trucks in view of the duPont Company's large interest in General Motors, and that policy will be followed.

Personally, I believe the meeting our people recently had with representatives of the General Motors at Detroit has been helpful, since it gave us an opportunity to acquaint those at the top with the difficulties we have experienced with some of their equipment and service. In any event, it developed the fact that they expect to have on the market in the near future a new heavy duty truck which we are hopeful will answer our special purposes, of which we expect to buy at least two as soon as they are available.

We welcome suggestions looking toward the improvement of our products and service, and I think it is pretty safe to assume the G.M. likewise is desirous of establishing not only close but enduring relations with its customers; at least, that was the impression our people gained on their Detroit visit.

(E.W. Furst.)

EW:R.JL

1924



THE GRASSELLI CHEMICAL CO.  
INCORPORATED

Cleveland, Ohio,  
January 8, 1931.

RECEIVED

JAN 12 1931

Mr. Lamot duPont, President,  
E. I. du Pont de Nemours & Company,  
Wilmington, Delaware,

LAMMOT DUPONT

Dear Mr. duPont -

We very much appreciate your letter of the 2nd., re trucks, with which we are in full accord.

You may be interested in knowing that our experience with G.M. light trucks has been entirely satisfactory.

Since the performance of G.M. heavy duty trucks in use at Grasselli, N. J., has been a matter of some concern, in that mechanical difficulties developed, resulting in rather high repair bills, we, a couple of weeks ago, suggested to Mr. Richter that we acquaint the Management of General Motors Truck Department at Detroit with the situation, as we saw it, in the belief that a full discussion of the problem would be of benefit not only to the General Motors but to us. This met with Mr. Richter's approval, and a very satisfactory conference was recently had in Detroit, at which the defects which have developed in the G.M. equipment we have in use were thoroughly gone into.

The conference developed the fact that the G.M. expect to place on the market within the next sixty or ninety days a new heavy duty truck which we have every reason to believe will fully answer our purposes. The attitude of their representatives was co-operative in every respect, and we are pretty well satisfied that our visit was worth while.

We are attaching a copy of our letter of January 3, to Mr. Richter, which explains our attitude on the use of G.M. equipment, which we hope will meet with your approval.

Very truly yours,

*E. W. Furst*

E.W.Furst/RJL  
Encl.

April 13, 1923.

Mr. R.R.M. Carpenter, General Manager,  
Pyralin Division,  
E.I. duPont de Nemours & Company,  
Wilmington, Delaware.

Dear Sir:

It has recently come to our attention that a number of the automobile companies outside of General Motors Corporation are looking on their purchases from the various General Motors Accessory Divisions and from the duPont Company as purchases from one interest.

Since this is the case, it would appear that we might have a better viewpoint, when considering these automobile companies as our customers, if we realize the entire volume of sales that the duPont Company and General Motors Corporation are making to outside automobile companies.

I have taken steps to bring together the sales from the various Accessory Divisions and Parts Companies of General Motors Corporation so as to show the total sales that we make to each competing automobile company, and I was wondering whether you would have any objection to supplying me with the total value, in dollars and cents, of your sales for the year 1922 to each of the outside automobile companies which you sell.



4208

If you see fit to supply me with this information I assure you same will be treated as confidential. ✓

With kind personal regards,

Very truly yours,

Vice President.

JLP:V

NOTE: Routing stamp bearing initials A.P.S., J.L.P., and L.R.B., with "4-20 Ans. recvd." inserted by hand after "J.L.P.", appears in lower right corner; a check mark and what appears to be "4/22" are written above the routing stamp. "1X-1010 Competing Automobile Mfgs." is written in upper left corner.



4209

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

PYRALIN DEPARTMENT  
ARLINGTON, N.J.

*Pyralin* TOILETWARE  
SHEETING, RODS & TUBES

April 20, 1923.  
Reference: JAB.

Mr. J. L. Pratt, Vice President,  
General Motors Corporation,  
224 West 57th Street,  
New York City.

Dear Sir:

Your letter of April 13th addressed  
to Mr. R. R. M. Carpenter.

We are giving you herewith information as to our 1922 actual sales to all Automobile manufacturers other than General Motors units. This amounts to approximately \$273,882 for the year.

Bear in mind this does not represent the consumption of these Companies, as many of them are partly competitive. You will also understand that there are many other manufacturers not shown on our list which indicates that their purchases during 1922 were entirely from competitive companies. The most important of the latter class are Dodge Brothers, Willys-Overland, and Hudson Motor Car Co. We are now doing some business with Hudson but are still not getting any part of their business from Willys or Dodge.

Yours very truly,

JAB:ELM.

ASST. GENERAL MANAGER.

4210

**AUTOMOBILE MANUFACTURERS -  
Pleasure cars & Trucks.**

*Pyraden*

NAME.	TOWN.	STATE.	1922 SALES
✓Gardner Motor Co.	St. Louis.	Mo.	✓\$4917✓
✓Moon Motor Car Co.	" "	"	✓\$8550✓
Patriot Mfg. Co.	Havelock,	Nebr.	\$175
✓Reo Motor Car Co.	Lansing.	Mich.	✓\$32315✓
✓Peerless Motor Car Co.	Cleveland.	Ohio	✓\$1833✓
✓F. B. Stearns Co.	"	"	✓\$2222✓
✓White Motor Co.	"	"	✓\$2098✓
✓Winton Motor Car Co.	"	"	\$7✓
✓Westcott Motor Car Co.	Springfield	"	\$238✓
✓Nash Motors Co.	Kenosha	Wisc.	✓\$12854✓
R. & L. Baker Co.	Cleveland	Ohio	\$101
Seneca Motor Car Co.	Fostoria	"	\$45
✓Harley-Davidson Motor Co.	Milwaukee,	Wisc.	\$83✓
Elgin Motor Car Corp.	Argo	Ill.	\$1828
✓Vellie Motors Corp. Co.	Moline	"	✓\$1014✓
✓H.C.S. Motor Car Co.	Indianapolis,	Ind.	\$393✓
Monroe Automobile Co.	"	"	\$528
✓Nordyke & Marmon Co.	"	"	✓\$4831✓
✓Indiana Truck Corp.	Marion	"	\$373✓
✓Durant Motors Inc.	Muncie	"	✓\$16118✓
Acme Motor Truck Co.	Cadillac	Mich.	\$200
✓Ford Motor Co.	Detroit	Mich.	✓\$135103✓✓
✓Hupp Motor Car Co.	"	"	✓\$13956✓
✓Studebaker Corp.	"	"	✓\$21425✓
✓Dort Motor Car Co.	Flint	"	✓\$2389✓

1929

NAME,	TOWN	STATE	1922 SALES
✓Pierce Arrow Motor Car Co.	Buffalo	N.Y.	✓\$779✓
✓Stewart Motor Corp.	"	"	\$876✓
✓Brockway Motor Truck Co.	Cortland	"	\$175✓
✓H. H. Franklin Mfg. Co.	Syracuse	"	✓\$3823✓
Winston-Vehicle Co.	Winston Salem	N.C.	\$560
✓James Cunningham & Sons Co.	Rochester	N.Y.	\$81✓
Larrabee-Deyo Motor Tr. Co.	Binghamton	"	\$96
✓Rainier Motor Corp.	Flushing,	L.I.	\$147✓
Brewster & Company	Long Island City		\$148✓
✓International Motor Co.	Allentown,	Pa.	✓\$2357✓
✓Anderson Motor Co.	Rock Hill,	S.C.	✓\$1451✓
✓Daniels Motor Co.	Reading,	Pa.	\$47✓
✓Fageol Motors Co.	Oakland,	Cal.	\$2189✓

*J. I. Case Threshing Mach. Co. Racine Wis. #3,475.✓*



4212

Jan. 19, 1934

Mr. J. E. Main  
Purchasing Staff  
Advisory Section  
Detroit, Michigan

Dear Mr. Main:

I enclose letter from Mr. H. G. Mackall which is self-explanatory and if you have no objection will be glad if you will furnish him with the information requested.

You know the du Pont Company has a very large business with the Steel Corporation and other kindred lines and I presume such information might be helpful in securing orders for explosives.

Personally, I cannot see any objection to giving them the names of the companies from whom we are buying coal and steel but, of course, it is entirely within your discretion.

Thanking you,

Yours very truly,

LRB:8

L. R. Beardslee

Enc.

4213

(Letterhead of)

E. I. DU PONT DE NEMOURS & COMPANY  
EXPLOSIVES DEPARTMENT  
WILMINGTON, DELAWARE

March 31st, 1924.

Subject: Reciprocity.  
Mr. P. S. du Pont,  
9012 Du Pont Building,  
Wilmington, Dela.

Dear Mr. du Pont:

Two years ago I conceived the idea that it might be of value for the DuPont Company to use their purchasing power for the purpose of influencing concerns from whom we buy to in turn buy from us.

Having secured the co-operation of the Purchasing Department, who agreed to send us copies of all their orders and contracts entered into, we devised a system to take care of this data, carding up all the names and indicating by signals important information. In addition, we advise our Sales executives and branch offices of purchases not only daily, but also by means of statements monthly and a general summary semi-annually, showing the status of all the concerns from whom we buy, as of those dates, i.e. if they have been purchasing from competitors, are they continuing to purchase from them,—and various other details of interest to the Purchasing Department.

This plan has grown in favor and I am glad to say that the Explosives and Paint Departments, who have been

using it most diligently and intelligently, have secured a great deal of business.

The thought suggested itself to me (as mentioned to you in our conversation) that if the purchasing power of the General Motors was added to that of the Du Pont Company, it would be irresistible, and if used intelligently, would doubtless result in securing a large amount of business for us.

This is evidenced by the letter which I left with you from Mr. Donohue, Manager of the Acid and Heavy Chem-

—2—

ical Division of the Paint Department, which sets forth in detail the consideration shown him by the Bethlehem Steel Company, because of the purchases made from the Bethlehem Steel Company by the General Motors.

This is only one instance of dozens, and you will note that the Bethlehem Steel Company have a reciprocity file with the purchases of the Du Pont and General Motors Companies listed on the one card, and that they consider the reciprocity idea valuable enough to have a reciprocity board, consisting of five executives.

I would suggest therefore, for your consideration the linking up of the purchasing power of the Du Pont and General Motors Companies and the inauguration of a system to take care of the details to fully advise the different units in order that we will not be "treading on each others toes" (so to speak) using the reciprocity files at present in my office and the system generally as a basis for the establishment of combined files.

The Bethlehem Steel Company is not by any means the only company we have heard of who are using reciprocity

to the limit, but we are confronted with it wherever we go, and it seems to me we are overlooking a valuable adjunct to our business if we do not take full advantage of our purchasing power.

I will be pleased to take this up further with you, and, if the idea meets with favor, to work out the details of a general reciprocity file for all the companies. It should be made an administrative matter, of course, in order to secure the full value of it based on the co-operation of all the units by interchange of data.

I will await your further advices with interest, as from my knowledge of what has been accomplished, I feel much good will result from the adoption of this suggestion.

Very truly yours,

/s/ G. H. KERR

GHK:L



4216

April 7th, 1924.

Alfred P. Sloan, Jr., Esquire,  
President, General Motors Corporation,  
New York City.

Dear Alfred:

I am informed that a number of companies have established a file on reciprocity and that this file is continually referred to in placing orders in order to insure that as much trade as possible is thrown to those who use the product of the corporations in question. The other day one of our representatives was with the Bethlehem Steel people and happened to see their file card in which they classified duPont and General Motors as one. The duPont Company is now looking into the advisability of establishing a system of this kind, and Mr. George Kerr has already carried out the preliminary work. I should be glad to have him explain the details to General Motors people, if you approve.

Very truly yours,

17

NOTE: "gmic-856c" is written in lower right corner; what appears to be "RTE" is written under initials in lower right.

E

1935

4217

~~GENERAL~~ GENERAL MOTORS CORPORATION

225 WEST 57TH STREET

New York, N. Y.

OFFICE OF THE PRESIDENT

April 12, 1924.

Mr. P. S. duPont,  
Wilmington, Delaware.

My dear Mr. duPont:—

RE: MATTER OF RECIPROCITY.

I have your letter of April 7th and will be glad to have Mr. Kerr send me a memorandum of what he has in mind. I certainly think this is a very constructive thing to do.

Very truly yours,

/s/ ALFRED P. SLOAN, JR.

B

AFSJr./K

4218

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

EXPLOSIVES DEPARTMENT

April 18th, 1924.

Mr. P. S. duPont,  
Wilmington, Dela.

Dear Mr. duPont:

I am returning copy of your letter of the 7th to Mr. Sloan, and his reply to you.

I am also sending you a complete report of my trip to Detroit in regard to the manuals and reciprocity methods.

Notwithstanding I have explained in my report, the value of using the purchasing power of the Du Pont and General Motors Companies, I would suggest,—if it meets with your approval—as I will be in New York early next week on my way to Chicago, that it might be worth while for me to see Mr. Sloan personally and give him further details, so that he will have a thorough understanding of the matter.

Kindly call me on the telephone tomorrow (Saturday) morning, telling me when I can see you for a few minutes.

Very truly yours,

/s/ G. H. KERR

K:L  
encl.

[fol. 1938] GOVERNMENT'S EXHIBIT No. 534

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Wilmington, Delaware.

EXPLOSIVES DEPARTMENT

April 18th, 1924.

Mr. P. S. du Pont,  
Building.

Dear Mr. duPont:

[fol. 1939]

Reciprocity:

In pursuance with your instructions, I took this matter up with Mr. Kother and Mr. Lynah (Mr. Mayne being engaged). I went into the matter very thoroughly with Mr. Kother and he seemed favorably impressed.

Mr. Lynah and I discussed this matter thoroughly from a purchasing point of view, and he agreed with me that if it is possible to combine the purchasing power of the General Motors and Du Pont Companies, if it is used intelligently and diplomatically, and records are available which will furnish reliable information when needed, that it would be very desirable, particularly as he stated the General Motors Truck Co. are using it with good results and that some other units are using it (as he termed it) in a haphazard manner, which he felt was apt to be dangerous and unsatisfactory.

[fol. 1940] I explained to Mr. Lynah the excellent results we have obtained; that we had in Wilmington reciprocity files containing all the data of the different divisions of the DuPont Company and that I was of the opinion that similar files could be established for the main Purchasing Department.

—4—

and the different units of the General Motors Corporation, and that they could be worked in harmony.

Mr. Lynah made this statement—that he is willing to and approves of bringing this matter to the attention of the General Sales Managers at their next meeting, but in order

✓



to accomplish the best results he suggested that the matter could be more effectively handled if you would express in writing your approval of this method of handling Du Pont and General Motors' purchasing data.

Inasmuch as I have in my office very complete reciprocity files, embodying all the data of the Du Pont purchases, I feel confident that I could inaugurate the same system for the General Motors Corporation and make such arrangements as would result in an intelligent interchange of data so that there would be no harmful results.

I would be pleased to have an opportunity to talk the reciprocity matter over with you in the near future as, if [fol. 1941] you consider favorably Mr. Lynah's suggestion, it will take some time to get the machinery in motion.

I will await your further advices.

Yours very truly,

(S.) G. H. KERR.

Enclosures.

K:L.

2

4221

April 30th, 1924.

Mr. Alfred P. Sloan, Jr., President,  
General Motors Corporation,  
New York City.

Reciprocity:

Dear Mr. Sloan:

Referring to conversation and your suggestion to give you an outline of my thoughts on this subject, I would call your attention to the following:

Having secured the co-operation of the Purchasing Department of the DuPont Company, who agreed to send us copies of all their orders and contracts entered into, we devised a system to take care of this data, carding up all the names and indicating by signals important information. In addition, we advise our Sales Executives and branch offices of purchases not only daily, but also by means of statements monthly and a general summary semi-annually showing the status of all the concerns from whom we buy, as of those dates, i.e. if they have been purchasing from competitors, are they continuing to purchase from them, and various other details of interest to the Purchasing Department, Executives and Branch Offices.

The plan has grown in favor and I am glad to say that the units using it diligently and intelligently, have secured a great deal of business.

There have been numerous instances where the use of our purchasing power on a reciprocity basis has resulted in securing business which we otherwise would not have had an opportunity to get. One instance in particular is

that of the Bethlehem Steel Company where our Acid and Heavy Chemical Division was anxious to have an opportunity to get the approval of their purchasing agent to try one of our products. It developed in consultation with the Bethlehem Steel officers that they have a reciprocity file and have they consider the purchases of the DuPont Company and the General Motors Corporation as one. The volume of our purchases on their reciprocity card was sufficient to influence the Bethlehem Steel Company's purchasing agent to not only try out the product of our Acid and Heavy Chemicals Division, but it finally resulted in a large trial order, and there is every prospect of our securing their entire business for that particular product.

The Acid and Heavy Chemical representative also developed that the Bethlehem Company has a Reciprocity Board, consisting of five executives.

There is no doubt that many large concerns of the country are using their purchases from other concerns to secure business, and we have been confronted with it in many instances; it would seem, therefore, we are overlooking a valuable adjunct if we do not take advantage of our purchasing power, and the combining of the purchases of the DuPont and General Motors Companies would undoubtedly make it irresistible.

To give you some further idea of the functioning of the DuPont reciprocity files, and the great value of the information which we are able to develop as to the affiliations of different concerns from whom we buy, I attach copy of letter to Mr. Leach, Sales Manager of the Pyralin Division, New York office. You will note our heavy purchases from the concerns mentioned and the very small purchases they are making from us.

4223

I would therefore, suggest if it meets with your favor, that this plan be given consideration, and I will be very glad not only to explain it more in detail at the Sales Managers' meeting which you mentioned, but, also, to assist in working out the details of a reciprocity file for all the companies, which would enable us to secure the full value of it, based on the co-operation of all the units by interchange of data.

Yours very truly,

/s/ G. H. KERR  
G. H. Kerr.

GHK:L

Copy to:

Mr. Wm. Coyne,  
Mr. P. S. du Pont.

1944



4224

MATTER OF RELATION BETWEEN FISK RUBBER COMPANY  
AND DUPONT COMPANY

August 13, 1924.

Mr. James Lynah, Secretary,  
General Purchasing Committee,  
General Motors Corporation,  
Detroit, Michigan.

My dear Mr. Lynah:—

The above proposition is not sent to you with the thought that the Purchasing Committee will take any particular action but just in the line of general information.

It appears that some time ago Mr. Pickard, Vice President in Charge of Sales of the duPont Company got in touch with Mr. Swayne to see if Mr. Swayne knew anybody in the Fisk Rubber Company. There followed a meeting here in Mr. Swayne's office in which the duPont people and the Fisk people got together and following that a very valuable business has been given to the duPont interest by the Fisk people.

The principle in General Motors is that each proposition should stand on its own foundation and, as I said before and repeat it to emphasize the point, we are not suggesting that any exception be made in this case but simply to let

4225

the Committee know that this has taken place, in the line of general information.

Very truly yours,

APSJr./K

Enc.

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NOTE: "gmc-Corres-Misc-du pont, E. I. de Nemours & Co.", followed by illegible initials, is written across top of page; routing stamp bearing initials A.P.S., J.L.P., H.M.C., F.C.H., A.K.H., L.R.B., A.T.B., and W.F.A., with check marks inserted by hand after "A.P.S." and "A.T.B.", appears in lower right corner.

4226

## GENERAL MOTORS CORPORATION

Excerpts from Minutes of Meeting No. 16 of Inter-divisional Relations Committee—General Purchasing Committee held September 5, 1924

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### RECIPROCITY.

This subject considered at meeting on July 2nd ~~was~~ again discussed as a result of requests from the DuPont Company for information regarding volume of business done by General Motors with various suppliers who are prospective customers of the DuPont Company. The matter was discussed at great length.

It was believed that the possession by DuPont salesmen of information regarding volume of business done by General Motors' Divisions with any suppliers would per se indicate a relationship between the two Corporations which would influence the supplier in the placing of his business. It is further believed that our buying position would be prejudiced in that suppliers who had been influenced to place business with the DuPont Company through their relationship with General Motors might reasonably expect our divisions to place business with them.

Finally it was agreed that as a practice General Motors could not undertake to supply information showing the volume of business done with any suppliers to the DuPont Company but that in special cases, upon request by the President of the DuPont Company to the President of General Motors, the situation would be properly dealt with, and that if the DuPont Company were to furnish to General Motors a list of suppliers whom it is desired to favor with inquiries, our divisions would endeavor to meet their wishes in this regard.

4227

At the foregoing meeting, held at Detroit, Michigan, on September 5, 1924, at 9:00 a.m., the minutes disclose that the meeting was called to order by Mr. Sloan and that the secretary attended.

There is no statement in the minutes as to the names of the persons present. An examination of the minutes does not give any information as to any other persons present.

1948



4228

GENERAL MOTORS CORPORATION

GENERAL PURCHASING COMMITTEE

DETROIT, MICHIGAN

SUBJECT

ATTENTION OF

August 13, 1924.

Mr. G. H. Kerr,  
E.I. DuPont de Nemours & Co.,  
Wilmington, Delaware.

My dear Mr. Kerr:

We acknowledge receipt of your letter of August 11 enclosing letters requesting data covering General Motors purchases from various concerns.

The information requested in connection with Manhattan Rubber Company and Nairn Linoleum Company will be secured as promptly as possible as this will be available without the expenditure of time on the part of our divisions.

The information requested in connection with the several Standard Oil Companies and the Bethlehem Steel Company would require the issuance of circular letters to all of our divisions and we would prefer not to begin this practice just now.

It is understood that information in connection with our purchases such as I have tentatively agreed to endeavor to secure for you, is not to be used to influence our sources to place business with the DuPont Company, or to place the DuPont Company in a preferred position as a source to them because of its interest in General Motors.

There would be no objection to your advising our sources that the DuPont Company holds a large interest in General Motors and solicit their earnest consideration on this account.

While it is our desire to assist you in your efforts to secure business for the DuPont Company we feel, as we previously advised you, that we consider it best to stand on our own equities as regards sales and purchases, that is, that our products should be sold strictly on their merit and our purchases likewise so made.

Agreeable to you we will take up in the beginning a few cases only in order to determine just how they will work out and whether or not any embarrassment is caused to General Motors.

Very truly yours,

GENERAL PURCHASING COMMITTEE.

/S/ JAMES LYNNAH  
Secretary.

James Lynnah:EB.

CC: to Mr J.L.Pratt.

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NOTE. "Not sent to files" written above "August 11" first line. Stamped box and initials A. P. S., J. L. P. and L. R. B. lower left. Check mark after J. L. P. in box and after J.L.Pratt at bottom.

4230

GENERAL MOTORS CORPORATION  
DETROIT, MICHIGAN

September 6, 1924.

Mr. Irene DuPont,  
E. I. DuPont de Nemours & Co.,  
Wilmington, Delaware.

My dear Mr. DuPont:

Your Mr. George H. Kerr has, from time to time, requested our General Purchasing Committee to supply him with information as to the volume of our purchases from various vendors who are customers or prospective customers of the DuPont Company, this information presumably to be used by DuPont Company's salesmen in dealing with such customers who are suppliers of General Motors. This subject has been discussed at length at two meetings of our General Purchasing Committee and as we are following a very definite policy in General Motors of having our Sales activities and Purchasing activities maintain their own status without the one influencing the other, it was felt that to supply the DuPont Company with the information requested by Mr. Kerr would convey the impression that the DuPont Company could influence General Motors purchases, and in this belief the following action has been taken by our General Purchasing Committee.

"Whereas it is believed that the possession by DuPont salesmen of information regarding volume of business done by General Motors' Divisions with our suppliers would per se indicate a relationship between the two Corporations which would influence the supplier in the placing of his

business; and whereas it is further believed that our buying position would be prejudiced in that suppliers who would be thus influenced to place business with the DuPont Company might reasonably expect our divisions to place business with them in return; and whereas it is the definite policy in General Motors to have their Sales activities and Purchasing activities stand on their own equities, it is agreed that as a practice General Motors cannot undertake to supply to the DuPont Company information showing the volume of business done with its suppliers, but that in special cases upon the request of the President of the DuPont Company to the President of General Motors, the situation would be properly dealt with, and further that if the DuPont Company were to supply to General Motors a list of vendors whom it is desired to favor with inquiries from the divisions, endeavor would be made to meet their wishes in this regard."

The committee was very anxious that its action be communicated to you in the belief that you would fully appreciate the situation.

Very truly yours,

GENERAL PURCHASING COMMITTEE.

/s/ JAMES LYNNAH  
Secretary.

James Lynnah:EB.

CC to Mr. J. L. Pratt.

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NOTE. Indecipherable short-hand notations in upper right corner. Also stamp "Answered Sept 9 (this superimposed over Aug 3) 1924 Irene duPont."



4232

COPIES TO—MESSRS. J. B. D. EDGE

F. W. PICKARD.

September 8, 1924.

Mr. James Lynah, Secretary,  
General Purchasing Committee,  
General Motors Corp.  
Detroit, Mich.

Dear Mr. Lynah:—

This will acknowledge your letter of the 6th. Of course any action which the General Motors takes is entirely their own affair and the du Pont Company should not be critical.

I think it was while you were with the du Pont Co. they adopted a very much similar principle of letting both sales and purchases stand on their own bottoms. I think that policy was a very good one and at least it avoided the endless complications resulting from an endeavor to carry out reciprocity, especially as the little fellow can work it far better than can a big corporation.

Since our Company adopted a new type of organization definitely segregating its management by industries, there has been a material departure from that principle. In other words we find ourselves more in the shoes of the little fellow and it was felt that reciprocity yielded very excellent results. I am not prepared to discuss in detail which is right but think it might be well when you get an opportunity that you discuss this with such men of our organization as Mr. J. B. D. Edge and Mr. F. W. Pickard, representing purchasing and selling—not that I am asking that you

change the ruling of the General Motors but purely as a matter of information.

I believe that this company has not improperly used information of the General Motors purchases to influence prospective buyers who sell to you.

Sincerely yours,

IRÉNÉE DU PONT, President

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NOTE. "File Copy" appears across both pages of document.



4234

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE

PAINT DEPARTMENT

September 11, 1934.  
FILE 77-HQ.

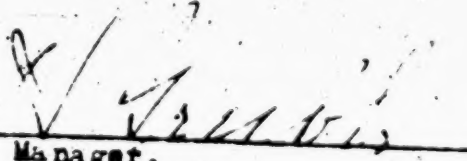
PERSONAL & CONFIDENTIAL

Mr. John Lee Pratt,  
c/o General Motors Corporation,  
General Motors Building,  
Detroit, Mich.

Dear Doctor:-

For your personal and confidential information, advise we are very desirous of securing the acid contract of the Bethlehem Steel Co., for their Steelton, Pa. Plant, and I was wondering if you would object to telling me what the prospect is of the G. M. placing any business with the Bethlehem Co. in the near future.

Yours very truly,

  
General Manager.

4235

PERSONAL & CONFIDENTIAL

September 22, 1924.

Mr. Hunter Grubb, Gen. Manager,  
Paint Department,  
E.I. du Pont de Nemours & Co.,  
Wilmington, Delaware.

Dear Mr. Grubb;

✓  
Your letter of Sept. 11th, in regard to General Motors' business with Bethlehem Steel Company, received.

Our Lancaster Steel Products Corporation, Brown-Lipe-Chapin Division, and other divisions from time to time place orders for steel with Bethlehem or some of its subsidiaries. With the present state of the steel market we are buying steel from hand to mouth. In fact, with the inventories we have, we are purchasing a very small amount of steel. Our steel purchases are made after securing quotations from the various steel companies. Some months the order will go to Bethlehem or some of the other independent companies; other months the same requirements will go to the Steel Corporation's plants.

It is practically impossible for me to give you any information as to where our steel requirements will be placed from month to month, as our Purchasing Agents in the various divisions do not know themselves until a day or so before the order is placed.

Our Brown-Lipe-Chapin Division were buying quite extensively from the Bethlehem Steel Company during the first six months of this year, and will continue to buy from them according to their needs if the Bethlehem's price and quality continue to be favorable in comparison with other companies.

The above is about all the information I can give you on this subject.

Very truly yours,

Vice President.

JLP:V

1956



4236

Form 11470-0 0000 3-57

Date 1/23

To: *Mr Lammot du Pont Pres.*

From: *L. J. Mahony*

	Please discuss with
	For approval
	For attention
	For information
	Note and forward to file
	Note and return to sender

REMARKS: *Thanks. The figures were  
to my use*

*m. Gine-590*

*1957*

4237

# GENERAL MOTORS CORPORATION

BROADWAY AT 57<sup>TH</sup> STREET  
NEW YORK. N.Y.

January 20, 1928.

Mr. Lammot duPont, President,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

My dear Lammot:-

I have your letter of January  
18th. I will get the necessary data together  
and advise you in due course.

*Brown*  
*2/18*

Very truly yours,

*Alfred P. Sloan, Jr.*

APCJr./K

*To Mr. Handy's request  
this re business for  
for E. I. duPont de Nemours & Company  
James & Ganghlin  
England State  
Z*

1958

NOTE: "RECEIVED JAN 21 1928 LAMMOT DU PONT" is stamped at top of page.

January 18, 1928.

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
New York City, N. Y.

Dear Alfred:

Our Explosives Department is confronted with the prospect of losing explosives trade in the Lake Superior district through a competitor taking its customers away in what is generally known as the "reciprocity" argument.

In order to combat this competition we desire to put before the Jones & Laughlin Steel Company interests and the Inland Steel Company interests the facts as to what of their products the du Pont Company and its affiliated companies buy from them. For this purpose, could you have someone send me a statement of the 1927 purchases by General Motors Corporation and its subsidiaries from the Jones & Laughlin interests, as represented by their subsidiary companies, as follows:

Blair Limestone Co.,	Pittsburg,	Penna.
Shanopin Coal Co.,	"	"
Vesta Coal Co.,	"	"
Pittsburg Merc. Co.	"	"
Alliguppa & Sou.	R.R.Co.	"
Woodlawn Water Co.	"	"

Also purchases from the Inland Steel Company, as represented by their subsidiary companies, as fol-

4239

Mr. A.P.Sloan

- 2 -

1/15/28

lows:

Inland Collieries Co., First Natl. Bank Bldg., Chicago, Ill.  
Stover Coal Co., Muttallburg, Fayette Co., W. Va.  
O. W. & W. Mng. Co., 407 McCormick Bldg., Chicago, Ill.

It is, of course, understood that in presenting these figures to our customer it will be for the purpose of retaining trade now enjoyed. There will be no promise or assurance that these purchases will continue or that the du Pont Company's efforts in the past have caused G. M. to place this business. We simply want to be in a position to place before the steel companies the actual facts as they have existed. This is very important trade to us and I would greatly appreciate the assistance you can render by giving us this information.

Yours sincerely,

PRESIDENT.

LduP/MD



Home Address  
Inland Steel Co Interests

4240

Inland Collieries Co, 1st Natl. Bank Bldg, Chicago, Ill  
Stover Coal Co - Mattellburg, Fayette Co W Va  
Lo H & P Mng Co 407 N. Dearborn Bldg Chicago, Ill

Jones & Laughlin Steel Co Interests

Blair Limestone Co - Pittsburg, Pa  
Shanopin Coal Co - " "  
Vesta Coal Co - " "  
Pittsburg Mfg Co - " "  
Allegheny & Southern R.R. Co - " "  
Woodlawn Water Co - " "

FORM 10-24



4241

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

DYESTUFFS DEPARTMENT

WILMINGTON, DELAWARE

January 29, 1929

Mr. J. L. Pratt, V.P.,  
General Motors Corp.,  
224 W. 57th St.,  
New York City, N. Y.

Dear Jack:

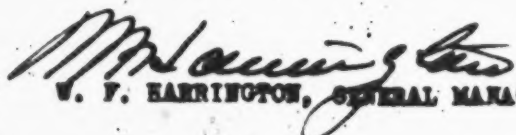
I want to ask you advice. In our efforts to sell dyestuffs through our various contacts with the mills that supply fabrics to General Motors, we find that there are considerable rejections by General Motors for quality of fabric, the rejections largely having to do with the color and fastness character which really come back to the quality of dyestuffs used. Your Company obviously buys materials on rigid specifications, where tests are susceptible of being applied to the product as received, etc. This type of specification purchase is all right, but when it comes to the question of the purchase of fabrics which goes back to the question of the quality of the dyestuffs used, I am not so sure but what there is a little lack of detailed technical information.

I am wondering if we could be of any help to General Motors by offering the services of our laboratories as a place for certain people from the Inspection Division of General Motors, who have to do with the inspection of fabrics, to visit and let us give them all the information that we have in connection with the properties of dyestuffs. I really believe that we could be of assistance and if rejections are largely eliminated through the selection and use of proper dyestuffs, obviously the fabrics will be gotten from the textile mills cheaper in the long run, because the textile mills have to figure on what the probable percentage of rejections are going to be.

We are interested in making sure that the best quality and most suitable type of dyestuffs for a specific requirement is used, and in that is our chief interest. If we can be sure that General Motors knows what is the best product to use and really asks for it, we would be satisfied to take our chances as to what percentage of this business in dyestuffs we could get.

I really believe that we can be helpful and I am just wondering if you see it in the light that I have attempted to present it and if you do, whether you would advise who would be the person for us to get in touch with to see whether we could sell this idea of the possibility of helpfulness on our part. I believe my idea is sound. If you do not think so, I would appreciate your telling me so.

Very truly yours,

  
W. F. HARRINGTON, GENERAL MANAGER

WFE-M/L

1962

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4242

January 31, 1909

Mr. W. P. Harrington,  
General Manager,  
E. I. duPont de Nemours & Co.,  
Dyestuffs Dept.,  
Wilmington, Del.

Dear Buck,

I have your letter of January 29th and will undertake to develop sufficient information to form an opinion as to whether anything can be accomplished along the lines you suggest.

My own reaction is that it would be a very constructive thing.

Very truly yours,

Vice-President.

JLP:CLH



4243

## DU PONT RAYON COMPANY

INCORPORATED  
"ACELE" DEPARTMENT  
EMPIRE STATE BUILDING  
350 FIFTH AVENUE  
NEW YORK, N.Y.

August 30, 1934

Mr. John Lee Pratt  
Vice-President  
General Motors Corporation  
1775 Broadway  
New York City

Dear John:

We are interested in expanding our market for Cellulose Acetate and recently learned that one of the rubber companies, who are one of our smaller consumers, use our acetate in an acetone solution as an "anti-stick" on the metal parts of rubber motor mounts where they do not want the moulded rubber to adhere.

I assume that General Motors are purchasers of these rubber motor mounts and wonder if I could trouble you to send me the names of your sources of supply so that we might approach them for what material of our manufacture they could use.

It has been a long while since I have run across you and I hope you are well and happy.

Very truly yours,

*J. W. Fitterer*  
J. W. Fitterer  
MANAGER  
CELLULOSE ACETATE SALES

JWF:GH



4244

August 31, 1934

Mr. J. W. Fitterer, Manager,  
Cellulose Acetate Sales,  
DuPont Rayon Company,  
380 Fifth Ave., New York City.

Dear John:

General Motors produces its own rubber motor mounts in its Inland Manufacturing Company, at Dayton, Ohio. If your organization has not contacted with Inland on this problem, we would be glad for you to have someone tell them just what you know about same.

Our Inland boys are working very close with the DuPont Company on their synthetic rubber, and I am sure you will have no trouble in getting a hearing for your cellulose acetate.

It was indeed a pleasure to hear from you, because I have often wondered where you were. There was a fellow named Smith in here recently. He was one of the research fellows in our early days at Parlin. I suppose most of the old gang have passed on or moved to other fields, but we did have good times even though we didn't recognize them as such in those days.

With kind personal regards,

Very truly yours,

Vice President

JLP:v

1965

4245

**DU PONT RAYON COMPANY**

INCORPORATED  
**"ACELE" DEPARTMENT**  
EMPIRE STATE BUILDING  
350 FIFTH AVENUE  
NEW YORK, N.Y.

September 5, 1934

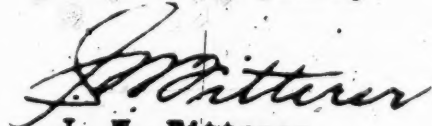
Mr. J. L. Pratt  
Vice-President  
General Motors Corporation  
Broadway at 57th Street  
New York City

Dear John:

Thank you indeed for the prompt-  
ness with which you have responded to my  
recent letter concerning the producers of  
your rubber motor mounts. We are contact-  
ing the Inland Manufacturing Company at  
Dayton on this subject as you suggest.

It was mighty nice of you to  
write me - and with kindest personal regards,

Very truly yours,



J. W. Fitterer  
MANAGER  
CELLULOSE ACETATE SALES

JWF:GH

**ACELE**  
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## DU PONT RAYON COMPANY

INCORPORATED

P. O. STATION 8

BUFFALO, N. Y.

April 8, 1934

TECHNICAL DEPARTMENT

Mr. John Lee Pratt, Vice-President  
General Motors Corporation  
59th and Broadway  
New York, N. Y.

Dear John:

Since our last discussion of the manufacture of small electric motors by Delco for the Rayon Company, very gratifying and substantial progress has been made. Two types have been developed; one, termed the combined bucket and motor, which is a unique development of Du Pont and Delco, is still held in the confidential category; the other, known as the Delco 7104 motor, is generally used by the rayon industry and is manufactured by Westinghouse and G.E. as well as by Delco.

Our last tests on a relatively small number of 7104 Delco motors were very gratifying. The workmanship seems to be somewhat better than that of your competitors and the price slightly less. Since this is a well known type and design of machine, we are writing to say that there is no objection on our part to your selling this motor to any of the rayon manufacturers who may be in the market. At the present time some of our competitors are either expanding their plants or contemplating doing so, and, like ourselves, are undoubtedly investigating operation at higher speeds, which would mean the replacement of some of their present motor equipment and a possible outlet for your production. We see no reason why you should not take advantage of this if you care to. Some of the rayon manufacturers have processes which do not use these spinning motors. The following tabulation will indicate those that do:

American Viscose Company - As far as we know they use mostly General Electric motors and will probably be difficult to persuade otherwise.

American Enka Corporation - Use some spinning motors.

Delaware Rayon Company - Expanding.

New Bedford Rayon Company - Expanding.

Skenandoa Rayon Corporation - Expanding.

Acme Rayon Corporation - Small users.

We have had the best of cooperation from the Delco organization, and if we can be of any service to you in return we will be glad to do so.

With kindest regards.

3-1639  
Very truly yours,  
TECHNICAL DEPARTMENT  
J. L. Pratt  
GENERAL MANAGER

MDL:OLB

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April 9, 1934

Mr. M. duPont Lee, Manager,  
Technical Department,  
DuPont Rayon Company,  
Buffalo, N. Y.

Dear Maurice:

I appreciate very much your letter of April 6th, in regard to the status of the motor development for the DuPont Rayon Company, on the part of our Delco Products Division.

I note that for the time being you would like our organization to continue to hold the combined bucket and motor, that is being developed jointly by DuPont and Delco Products, in a confidential way but that you are very agreeable to their offering the Delco 7104 motor generally to the rayon industry, of which fact I am advising Mr. Kunkle, together with the names of the companies you suggest.

I want to express to you my thanks for your cooperation with our Delco Products organization, and am sure you can count on the Delco Products boys for the best they have—or which there is no better, when it comes to building good motors.

With kind personal regards,

Very truly yours,

Vice President

copies to Messrs. Kunkle  
Wilson

NOTE: The words "Accessory—Delco Products"—, a crossed out word, and "du Pont Rayon Co." are handwritten across the front of the document. A handwritten check appears above the word 6th in the first sentence.

4248

E. I. DU PONT DE NEMOURS & COMPANY

ADVICE OF ACTION

March 25, 1919

Mr. R.R.M. Carpenter, V.P.

SUBJECT. AGREEMENT BETWEEN DUPONT COMPANY AND GENERAL MOTORS CORP. FOR USE OF DEVELOPMENT DEPT AND PERSONNEL DIV. OF DUPONT COMPANY BY GENERAL MOTORS CORPORATION:

ACTION TAKEN BY Executive Committee

AT MEETING March 24, 1919

REMARKS

Referring to your letter of March 19, 1919 (#451), on the above-mentioned subject:

It was moved and unanimously carried that the Executive Committee approve the suggested draft of letter to the General Motors Corporation attached to your letter of March 19th, re. use of the Development Department and Personnel Division of the duPont Company by the General Motors Corporation.

[Stamp] M. D. FISHER

Sec'y Executive Committee

42:19

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MARCH 19, 1919.

SERIAL No. S-813

EXECUTIVE COMMITTEE.

Building.

Gentlemen:

As the Development Department and Personnel Division are doing considerable work for the General Motors Company, I suggest that the attached letter be written to the General Motors Company, this letter being based on the same general ideas as that of the Engineering Department.

Personally, I think that both this arrangement and the Engineering Department arrangement should be considered as more or less temporary, and I gather this is the general idea of the Executive Committee.

Very truly yours,

[Stamp] R. R. M. CARPENTER  
Vice President.

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COPY

General Motors Corporation,  
New York, N. Y.

Gentlemen:

Referring to your desire to secure the services of our Development and Personnel Departments, we hereby agree that you may have the benefit of the services of our Development and Personnel Departments to such an extent as you may from time to time advise, by written request to this company, for such work as:

- (a) Consultants on Development work
- (b) Consultants on Personnel work
- (c) Investigations, study and reports on new sources of material, general expansion into new lines, etc.

For any work done for you by the Development Department or Personnel Department, the following charges will be made.

(d) The total expense, incurred by this Company for this work or expense directly attributable to the work. This includes the proportion of the salaries and expenses of the departments, represented by time spent upon the work, and includes also the pro-rata share of office rent, office supplies and expenses, general clerical and stenographic help, and salaries of the important men of the departments who devote themselves to general, rather than specific work of the departments, etc., but does not include any proportion or pro-rata share of the Administrative work or general overhead expenses of the Company other than the salaries and expenses of the Director of the Department and of his lieutenants.



(e) Plus an indirect or overhead charge amounting to 10% of item (d) to cover a pro-rated share of the general overhead expenses of the company, and a small margin of profit to the duPont Company.

Also, should any bonus be granted members of Development or Personnel Departments for work applicable to General Motors, the General Motors Co. to be billed with the cost of such bonus, provided granting of such bonus has been approved by the General Motors Company.

The foregoing upon the condition that it is your desire and intention to have the Development and Personnel Departments serve the operations of your company in the same manner that it now serves the operations of the duPont Company.

This agreement to remain in effect until such time as either party shall give to the other written notice of its desire to discontinue the arrangements at any time after giving six months' notice.

If the foregoing proposition is satisfactory to you and you will accept it on this letter, this will be sufficient to put the arrangement into effect:

Yours very truly,

Vice President.

Accepted:

NOTE: "Return to Room 9059" is stamped twice at top of first page and "Return to Executive Committee Room 9069" is stamped at bottom of first and second pages. "X-1100" is written at top of first page and "T" is written at top of second page. "Executive Committee Secy's No. 451" is stamped at top of second page. "gmc-916" is written at bottom of first page. "gmc-916a" at bottom of second page and "gmc-916b" at bottom of third page.

**ADVICE OF ACTION**

4252

January 13, 1920

Mr. Lamsot duPont, Chairman.

Copy to Dr. C.L. Reese.

**SUBJECT WORK DONE BY CHEMICAL DEPARTMENT FOR  
GENERAL MOTORS CORPORATION:**

ACTION TAKEN BY Executive Committee

AT MEETING Jan. 12, 1920

**REMARKS**

The following resolution was unanimously adopted:

RESOLVED, that report from the Chemical Director dated January 5, 1920, (#2166) in connection with cost of work which the Chemical Department may do for the General Motors Corporation or its subsidiaries during 1920, be accepted and ordered filed; that the Chemical Department be authorized to continue with the work for the General Motors Corporation always provided that the full expense for such work will be borne by the General Motors Corporation; and that the Chairman be requested to give some thought to perfecting an arrangement covering both the Chemical and Engineering Department work carried on by the duPont Company for account of the General Motors Corporation, in a manner which would overcome the objections, particularly regarding expense and lack of efficient service to the duPont Company, which have been experienced under the present arrangement between our Engineering Department and the General Motors Corporation.

Sec'y. Executive Committee.

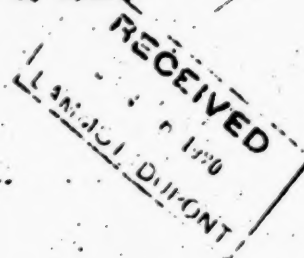
NOTE: "3" is printed to the left of signatory's title. "M.D. FISHER." is stamped above signatory's title, and "RETURN TO EXECUTIVE COMMITTEE ROOM 9069" is stamped above "M.D. FISHER".

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January 5, 1920.

TO- EXECUTIVE COMMITTEE;  
FROM- CHEMICAL DEPARTMENT - DIRECTOR;



OUR FILE RS-501-2-1.

In accordance with understanding arrived at with Mr. Lamet duPont, we did not include in our Appropriation Request for 1920 any amount to cover the cost of work which we may do for the General Motors Corporation or its subsidiaries. We are now advised by the Treasurer that any such expenditures which we incur should be charged against our Appropriation.

We are at present making a study of motor fuels for the General Motors Corporation and of cements for the Champion Ignition Company. It is expected that the amount of such work for the General Motors Corporation will be extended, but we have no basis whatever at the present time on which we could forecast what our expenditures for such work during 1920 will amount to. We have been authorized by the President to go ahead with such work for the General Motors Corporation, as is agreed to by them, and understand from Mr. F. D. Brown that it will be satisfactory to take out an additional Appropriation to cover the cost of this work later on during the year, when we have some basis on which to arrive at the probable amount of money to be expended for such work.

CHEMICAL DIRECTOR.

NOTE: "LduP" is written at upper left. Stamp at upper right reads: "EXECUTIVE COMMITTEE Secy's No. 2166". "RECEIVED" stamp bears date, "JAN 6 1920". Handwriting at top center is "R" with a check mark. Room number of stamp in left margin is "9069". Signatory's name, "CHAS. L. REESE.", is stamped. Writing in lower right corner is: "gmc-917a". Reference initials are: "LOB:SJB".

LOB:SJB

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Wilmington, Delaware,

April 22, 1920.

TO: EXECUTIVE COMMITTEE

FROM: CHAIRMAN

CHEMICAL WORK FOR GENERAL MOTORS.

1. At a conference April 22d, attended by Messrs. J. J. Raskob, C. F. Kettering, Irene du Pont, Dr. Reese and other representatives of the Chemical Department, the question of the basis upon which the du Pont Chemical Department would undertake work for General Motors Corporation was discussed. As a result, Mr. Raskob made a suggestion which appears to be reasonable and which I recommend the Executive Committee approve, in principle, as follows:

2. General Motors will be free to call upon du Pont Chemical Department for any advice or work that General Motors desires du Pont to undertake. When so called upon, du Pont is obliged to undertake the work.

3. It is understood that General Motors Corporation will establish, at such of their plants as seem to be proper, chemical laboratories to handle their routine problems, in view of which it is not intended that General Motors Corporation will request the du Pont Chemical Department to handle any routine work.



4. It is understood that a representative of the du Pont Chemical Department will be appointed a member of any Experimental Board or Board for the control of chemical experimental work of General Motors Corpora-

—2—

tion. The salary of this representative may be included in charges to General Motors Corporation in either Group 1 or Group 2.

5. When the request has been made and accepted, it will be classified either in Group 1 or Group 2. In Group 1 will be included those projects which at start appear to be such that the results will influence the General Motors operation or will result in General Motors making some variation in their methods of manufacture, either by addition to plant or otherwise.

6. Group 2 shall include such cases where it appears that, as a result of the work, du Pont Company will desire to enter into some line of manufacture, or General Motors will desire to enter into some new line of manufacture, or some kind of deal will be made with an outside manufacturer to take up some line of work. The decision as to classification in Group 1 or Group 2 will be by a Committee of two General Motors representatives and two du Pont representatives. If this Committee fails to agree, each case will be decided by agreement between the Presidents of the two corporations. The intention is to decide the classification beforehand.

7. Any work upon the modifications or improvement of any du Pont product that may be requested by General Motors Corporation will be undertaken solely at the option

THIS AGREEMENT made this       day of  
1920, between E. I. DUPONT DE NEMOURS AND COMPANY,  
of the first part (hereinafter called the du Pont Company),  
and GENERAL MOTORS CORPORATION, of the second part  
(hereinafter called the Motors Company), both corpora-  
tions organized and existing under the laws of the State  
of Delaware.

W I T N E S S E T H :

WHEREAS, Motors Company has numerous problems of  
a character requiring mixed mechanical and chemical skill  
and ability, and for this purpose maintains laboratories and  
organizations at certain of its plants, and such problems  
have recently become so increasingly important to the auto-  
mobile industry as to necessitate either a substantial expansion  
of such laboratories and organizations or the employ-  
ment of existing facilities of a similar character; and

WHEREAS, du Pont Company, in connection with its  
extensive chemical business, maintains elaborate chemical  
laboratories and a large chemical organization, which are  
used for research and development work in almost all  
branches of chemistry, which organization and laboratories  
are especially well adapted to utilization for research and  
development work along lines beneficial to the Motors Com-  
pany, and the parties hereto are desirous of entering into  
an agreement under which such facilities of du Pont Com-  
pany can be utilized by the Motors Company in such manner  
as not to interfere with the business of du Pont Company.

THEREFORE, in consideration of the premises and the  
mutual promises, conditions and stipulations hereinafter set  
forth, the parties have agreed as follows:

FIRST:—The Motors Company may from time to time present to du Pont Company its problems in any way connected with the:

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promotion or development of the automobile industry when the same are solely of a chemical nature or of a mixed chemical and mechanical nature; and du Pont Company shall submit such problems to its Chemical Department, and the best energies and skill of its chemists shall be devoted to the solution thereof. PROVIDED, HOWEVER, that work on such problems shall at no time be permitted to interfere with work on du Pont Company's own chemical problems.

The du Pont Company shall designate, in writing, from time to time, one or more persons to whom the Motors Company shall submit its problems as aforesaid.

SECOND:— The Motors Company shall forthwith establish and maintain a committee whose duty it shall be to consider and determine chemical research problems which are to be submitted to du Pont Company, and one member of said committee shall be appointed from the Chemical Department of du Pont Company. All matters for the consideration of said committee shall be taken up at stated meetings thereof, and the Motors Company shall pay such proportion of the salary of du Pont Company's representative as his time employed solely on the work of said committee bears to his entire time; and shall also pay actual traveling expenses incurred by such du Pont Company's representative while engaged solely on work of said committee.

THIRD:— For the purpose of apportionment between the two companies of the expense of experimental, develop-

ment and research work on or in connection with the problems aforesaid and the determination and disposition of the ownership of the property and property rights resulting therefrom, said problems, and (whenever separate classifications of distinct parts of a problem is practicable) divisions thereof, shall be separated into groups as follows:

(a) Group I shall include all such problems as involve the improvement of processes, methods, products or materials

which have theretofore been used by the Motors Company; example,—improvement of a cement used for spark plugs.

(b) Group II shall include all problems submitted by the Motors Company which cannot properly be classified in Group I; example,—a new motor fuel; a new process or method of producing a motor fuel; an improvement of a motor fuel not theretofore used by the Motors Company.

(c) If in the course of experimental or research work on problems theretofore classified in one or the other of the above groups, one or more collateral or independent problems shall arise which are properly otherwise classified, such reclassification shall be made promptly.

FOURTH:—The classification of problems into Groups I and II, as herein provided, shall be made by the Chemical Director of du Pont Company and the Director of Research of the Motors Company, and in the event of the failure of these two to agree the matters in controversy shall be referred to ....., whose decision shall be final.

FIFTH:—The Motors Company shall pay or reimburse du Pont Company for all expenditures made or incurred



by du Pont Company on or in connection with problems submitted to it as above provided, and shall, in addition, pay to du Pont Company ten per cent. (10%) of amounts so expended or incurred on or in connection with problems classified under Group I aforesaid. Such expenditures shall be understood to include those made or incurred in necessary capital investments; PROVIDED that no such capital investment in excess of \$.....shall be made or incurred without the prior written approval of the .....

..... OF THE MOTORS COMPANY. Cost of work on such problems shall be determined by the usual du Pont Company method of determining costs of its own experimental work, and shall include overhead expense and a proportionate part of the general expense of maintenance and operation of du Pont Company's Chemical Dept.

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and laboratories, in the proportion which the amount of expense otherwise chargeable to the Motors Company as above provided is to the total amount of expense of such Chemical Department and laboratories.

All property which may be purchased for the Motors Company as herein provided shall at all times after purchase be the property of the Motors Company and shall be removed at the expense of the Motors Company from the premises of du Pont Company within

after written request of the du Pont Company on the Motors Company to effect such removal in whole or in part. In event removal as so requested shall not be made, du Pont Company may sell the same in whole or in part at public or private sale, for such price as du Pont Company shall deem proper, and the payment of the proceeds of such sale

by du Pont Company to the Motors Company shall be a complete discharge from all liability whatsoever arising out of the purchase, maintenance or custody of said property.

SIXTH:—The Motors Company shall be entitled to the entire right, title and interest in and to any invention which may result from work on problems aforesaid, classified under Group I, and in and to any letters patent which may be secured thereon (subject, however, to the right of du Pont Company to use such patents or inventions in its own business), and shall be entitled to a one-half interest in such property rights resulting from work on problems aforesaid, classified under Group II; in the latter case neither party hereto being entitled to use or in any manner dispose of such inventions without the prior written consent of the other party.

SEVENTH:—Nothing herein contained shall operate to bind the du Pont Company to perform experimental or research work at the request of the Motors Company which shall have for its object the modification or improvement of any of du Pont Company's

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products/.

EIGHTH:—IT IS AGREED that any employe of du Pont Company who may be detailed on the experimental or research work provided for under this agreement shall be eligible for bonus under the bonus plan of du Pont Company, and such bonus as may be awarded to such employe shall, subject to the approval of the Motors Company, be included in the cost of experimental and research work provided for under this agreement.

NINTH:—Either party hereto may terminate this agree-  
ment at any time by giving to the other written notice of  
its intention so to do; and after such termination, both  
parties shall be relieved from all obligation or liability here-  
under except as to obligations or liabilities assumed or  
accrued prior to the date of such termination and except  
that such termination shall in no way effect any of the prop-  
erty rights which have accrued prior to such termination.

IN WITNESS WHEREOF the parties hereto, by their proper  
officers, have caused these presents to be executed on the  
day and year first above written.

E. I. DU PONT DE NEMOURS AND COMPANY

By .....

Attest:.....

GENERAL MOTORS CORPORATION

By .....

Attest: .....

Form approved  
Legal Dept.  
C.M.Spargo

NOTE: "Executive Committee Secy's No. 3220" and  
"Received Jun 16 1920 Lammot du Pont" are stamped at  
top of first page. "R" is written at the top of the first page  
with a check mark under it. "Return to Executive Com-  
mittee Room 9069" is stamped at bottom of first and fifth  
pages. "GMC 1523." is written at bottom of first page and  
"GMC 1523A." is written at bottom of remaining pages.



4272

October 10, 1921.

Mr. C. F. Kettering, President,  
General Motors Research Corporation,  
Dayton, Ohio.

Dear Mr. Kettering:

AGREEMENT—GENERAL MOTORS—DU PONT  
RESPECTING CHEMICAL WORK.

On June 22, 1920, the Executive Committee of du Pont Company approved a proposed agreement between General Motors and du Pont Company, covering chemical investigation done by du Pont Company for General Motors, and providing how the charges should be paid and how the rights to any inventions developed might be apportioned between the two companies.

As stated above, this agreement was approved by the du Pont Executive Committee, and the Chemical Department—which at that time was reporting to me as Chairman of the Executive Committee—took up with you, representing General Motors Corporation, the approval of the agreement on General Motors' part. The Chemical Department call my attention to the fact that General Motors has never approved this agreement and it has not been executed. I further understand that a copy of the agreement was sent you and that, at least recently, your approval has not been secured, nor have you mentioned any

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specific objection to the proposed form of agreement.



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It appears to me desirable that this question should be settled and definite agreement between the companies executed. It would be preferable, in my opinion, if this were accomplished through the channels designated; namely, between you and our Chemical Department. However, if there is anything I can personally do to assist I would be glad if you would call on me.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "File Copy" is printed across each page. "Return to Executive Committee Room 9069" is stamped at bottom of each page. "Return to Room 9059" is stamped at top of first page. "X-1100", "see X-234" and "8" (with a large check mark) are written at top of first page. "GMC 1532." is written at bottom of the first page and "GMC 1532" is written at bottom of the second page.

4274

GENERAL MOTORS RESEARCH CORPORATION  
DAYTON, OHIO.

Oct. 21, 1921.

Mr. L. duPont, Vice President,  
E. I. duPont de NeMours & Company,  
Wilmington, Del.

My dear Mr. duPont:—

I have delayed the reply to your letter of October 10th pending some investigations which I have been making.

I found, after my visit to Wilmington, in which this contract was discussed, that the then Executive Committee of the General Motors organization was quite antagonistic to this proposition and asked us to delay signing the agreement. However, since the change in our organization, our problem, as we now see it, is entirely changed from what it was at that time. I talked with Mr. Pierre S. duPont yesterday and in consequence I want to arrange a meeting in New York during the week of the Auto Show between the General Motors and the duPont organizations to lay fully before them this whole problem, as we see it, and particularly the problem with relation to the fuel development work. Therefore, we will just consider the matter of the contract out of the picture at the present time and when we get together at this meeting I think we can quickly or-

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ganize so that we can get co-operation between the two companies.

With kindest personal regards, I am

Yours very truly,

*C. F. Kettering*  
President.

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NOTE: Received and answered stamps of Lamot du Pont, both dated October 24, 1921 appear at the top and "Return to Executive Committee Room 9069" is stamped at bottom of page, "GMC 1533." is written at bottom of page. Italics indicate handwriting.

4276

October 24, 1921.

Mr. C. F. Kettering, President,  
General Motors Research Corporation,  
Dayton, Ohio.

My dear Mr. Kettering:

I have yours of October 21st in regard to agreement between General Motors and du Pont with respect to chemical experimental work.

It seems that the du Pont Company's position in this matter and the object of the contract has not been made clear, or else we have a misunderstanding of what we are expected to do for General Motors under present conditions.

Our understanding of present conditions is that we are expected to take up experimental chemical work for the General Motors Corporation when requested. We have taken up such work from time to time and have consulted and advised from time to time.

At present we have no definite authority for doing this and have no mutually agreed upon basis of charging for the work or dividing the results in the shape of rights. The purpose of the agreement is to give the du Pont Company definite authority and a basis for charging, and either reserving or turning over to General Motors any rights that may be developed. It seems to me that this



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purpose must be accomplished regardless of what arrangement is made with respect to any of the work, and that, therefore, the agreement should be executed at once.

Yours very truly,

VICE-PRESIDENT.

LduP/MD

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NOTE: "File Copy" is printed across each page and "Return to Executive Committee Room 9069" is stamped at bottom of each page. "X-1100" and "8" (with a large check mark) are written at top of first page. "GMC 1534" is written at bottom of each page.

of the du Pont Company and, if undertaken, shall be paid for entirely by du Pont Company.

8. In all cases coming in Group One, General Motors will pay du Pont the actual cost of the work, including overhead, plus 10%. The actual cost to be determined in the usual way according to accounting methods of du Pont Company. All right and interest in any patents or in-

—3—

ventions or information is to belong to General Motors. except that du Pont shall have the right to use such inventions, patents or processes in its own business.

9. In all cases in Group 2, General Motors shall pay du Pont the actual cost of the work, including overhead, but no profit. The actual cost and overhead to be determined in the usual way according to accounting methods employed by du Pont Company. In such cases du Pont and General Motors will each have a 50% right in any information, processes, inventions or patents resulting from the work; but either General Motors or du Pont desiring to use these results will have to make a satisfactory arrangement by purchase or otherwise in order to acquire the full right to use of such results.

10. Any employees of du Pont Company working on subjects in either Group 1 or Group 2 will be eligible for bonus under the du Pont Bonus Plan. Any bonus awarded shall not be charged to General Motors Corporation except by approval of General Motors Corporation.

11. This agreement will be subject to cancellation by either party without notice with respect to work under-

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taken in future, but cannot be revoked by either party with respect to work previously taken up.

[Stamp] LAMMOT DUPONT

LduP/MD

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NOTE: "Executive Committee Secy's No. 2900" is stamped, and "AFduP" and "8" are written, at top of first page. "Return to Executive Committee Room 9069" is stamped at bottom of first page. "gmc-918" is written at bottom of each page.

4258

E. I. DU PONT DE NEMOURS & COMPANY  
Incorporated

May 3, 1920.

Mr. LAMMOT DU PONT;—

Referring to Executive Committee Report #2900:

Think it would be well to insert at the end of the second line of the second paragraph—"which does not encroach on du Pont Company's business" in order to make perfectly clear that we would not of necessity undertake work for them to put them in a business which we already occupy.

IRENEE DU PONT, President

*Irene du Pont*

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NOTE: "Received May 4 1920 Lammot du Pont" is stamped at top and "Return to Executive Committee Room 9069" is stamped at bottom of page. "Reese 5/4" is written at the top and "GMC 1518." is written at the bottom of the page. Italics indicate handwriting. At lower left corner is written "146" with a pencil line through it.



Form 1211 2-24-3 24

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

CHEMICAL DEPARTMENT  
WILMINGTON, DELAWARE

4259

MR. LAMMOT DU PONT:

OUR FILE RW-126-4.

CHEMICAL WORK FOR GENERAL MOTORS.

I beg to return herewith your memorandum of April 22nd, addressed to the Executive Committee, with regard to chemical work for General Motors in which most of the points brought up at the conference referred to are very well brought out.

Although I do not remember that anything was said in the conversation which brought out the fact that duPont shall have the right to use such inventions, patents or processes as may be developed in Group I, this is in the third paragraph from the last on the second page of your memorandum. There was also nothing said about cancellation of the agreement, although I believe both the points brought out in your memorandum are quite proper and should be included.

I am also enclosing herewith copy of Dr. Stine's memorandum of the conference in which you will notice there are several points not covered by your memorandum. The second paragraph, page 1, refers to the fact that the General Motors Corporation proposes to establish laboratories in their various units so that we will not be requested to do routine work for those units.

The last paragraph, page 3, of Dr. Stine's memorandum with regard to bonuses is not covered in your memorandum and is, I feel, an important item.

The last paragraph in Dr. Stine's memorandum is also an

important one, although I do not know that it is necessary to include this in your memorandum, but it would seem advisable to include it in a contract.

I wish to call attention to one important point which is not brought out in either memorandum and which was not discussed at the conference. In your memorandum, page 1, paragraph 3, the following statement occurs:- "when so called upon, duPont is obliged to undertake the work". This would mean that duPont is required to undertake any work requested of them by the General Motors Corporation through Mr. Kettering or his duly authorized representative. Although it is unlikely that such a case as I have in mind would come up, still it is possible that General Motors might request us to work upon some subject which might involve a line of manufacture in which we are already engaged or in which we contemplate engaging and which might also be of interest to the General Motors such as paints, varnishes, fabrikoid, pyralin, lacquers, etc. It seems to me that requests for work along such lines as these for the purpose of improving products of this nature might be made and if they are made both the General Motors and ourselves would readily understand that the results of such work should more properly be paid for by the duPont Company and the results owned entirely by them.



CHEMICAL DIRECTOR.

CLR:AR

"ANSWERED" stamp at top center of first page bears date "APR 29 1920"; handwriting below reads "Ex Com 4/29"; stamp to the right reads: "RECEIVED APR 29 1920 LAMMOT DUPONT". A check mark appears to the left of each of the third and fourth paragraphs. On page 2, "4." is written to the left of the last paragraph. Signature is "Chas L. Reese".

4261

**MEMORANDUM OF DISCUSSION OF PROPOSED AGREEMENT  
BETWEEN THE DU PONT COMPANY AND GENERAL MOTORS  
CORPORATION BY WHICH THE SERVICES OF THE CHEMICAL  
DEPARTMENT OF THE DU PONT COMPANY MIGHT BE MADE  
AVAILABLE TO THE GENERAL MOTORS CORPORATION**

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There was a conference on April 22d in Dr. Reese's office attended by Messrs. Irene duPont, Lamot duPont, John J. Raskob, C. L. Reese and other members of the Chemical Department of the duPont Company and by Mr. C. F. Kettering, Director of Research for General Motors Corporation. At this conference various phases of the proposal to use the Chemical Department of the duPont Company in a consultant capacity and for research work for the General Motors were discussed. The question of a suitable basis for such an arrangement received principal attention. The following suggestions were made by Mr. Raskob to serve as a basis for an agreement:—

In the first place, the General Motors Corporation will provide itself with the necessary chemical facilities to handle routine chemical work at the various plants where occasion may arise for such facilities. These facilities correspond in general to the duPont Company's works laboratories.

In addition to the routine work referred to above, it is anticipated that the General Motors Corporation will have a considerable amount of chemical work which will call for the services of consultants as well as for research chemical laboratory facilities.

It is proposed that the General Motors Corporation may call upon the Chemical Department of the duPont Company at will to undertake such chemical work for the General Motors Corporation as the Director of Research of General Motors, or persons designated by him, may request. When requested through the proper channels duPont is

obliged to undertake such chemical work.

A committee consisting of an equal number of representatives of the General Motors and duPont Companies shall classify such chemical work as may be requested into two classes. In the event of the failure of this committee to agree as to the classification, such disagreement will be adjusted by reference to the Presidents of the two corporations.

This classification of the chemical work is intended to be preliminary to starting any work and will divide the work into Class "A" and Class "B" subjects.

Class "A" work shall consist of all problems which directly concern the General Motors Corporation in connection with its production problems.

Class "B" work shall consist of such problems as may result in developing the possibility of some line of manufacture which the duPont Company might enter or which the General Motors might enter as a new line.

For all Class "A" work the duPont Company shall charge actual cost, including the proportion of overhead, plus 10%. This 10% shall be considered as profit. For Class "B" work the duPont Company shall charge actual cost including overhead. The cost of such work in Class "A" or Class "B" shall be determined by the usual duPont accounting methods.

The results, such as process modifications, new processes or inventions, of Class "A" work shall be the exclusive property of the General Motors Corporation. The results of Class "B" work shall be equally for the account of duPont

[1383]



—3—

and General Motors shall each have a .50% right in the information, process, patent rights, etc. resulting from Class "B" work.

For example, if Experiment No. 23 under Class "B" should result in a patent, secret process or other operation which might be sold for, say, \$3,000,000, and such sale is actually made, there would be deducted from the said \$3,000,000, the cost of the experimental work and the balance or profit would be divided equally between the duPont Company and General Motors Corporation.

Should either General Motors or duPont desire to use the results of some particular experiment, piece of research or investigation falling in Class "B", it will be necessary for the Company desiring to use the work to purchase or otherwise arrange with the other Company for acquiring its rights to the same. The price to be paid for these exclusive rights shall be determined by some Committee or Board selected by mutual agreement.

Arrangements should provide the means under which the Chemical Department at the end of each year may determine to what extent, in their opinion, the problems involved entitle the men in the duPont organization, who have been working thereon, to bonuses. After consultation with the General Motors' Director of Research the award of such bonuses shall be recommended to the duPont Bonus Committee for their consideration. In case bonuses are granted, the cost of such bonuses shall be charged to Classes "A" and "B", respectively, in accordance with the original recommendations of the Director of Research of the General Motors Corporation and the Chemical Director of the duPont Company.

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A duPont man, who should be an employe of the duPont Chemical Department, should be a member of the Committee or Board of Directors which Mr. Kettering may establish in the General Motors Corporation's experimental department for the consideration of experimental problems and research work. This man should devote his entire time and attention to General Motors work and his salary be charged against said work, prorated between Classes "A" and "B".

CMS:AR

4-28-20.

[1985]

Government's Exhibit No. 580

4265

Wilmington, Delaware,  
June 15, 1920.

TO: EXECUTIVE COMMITTEE

FROM: CHAIRMAN

Herewith please find form of agreement between General Motors Company and the Chemical Department of du Pont Company, for your approval.

[Stamp] LAMMOT DUPONT

LduP/MD

4278

GENERAL MOTORS RESEARCH CORPORATION

DAYTON, OHIO.

Nov. 5, 1921

Mr. Lamont duPont, Vice Pres.,  
The E.I. duPont deNemours & Co.,  
Wilmington, Del.

My dear Mr. duPont:—

I have delayed answering your letter of Oct. 24th because our Mr. Midgley was going to make a trip to your plant and he has just returned from there this morning.

I understand that a very good understanding is now being worked out between the two companies and there is reason to believe that the matter will be settled to our mutual satisfaction in the near future.

With kind regards, I am

Yours very truly,

*C. F. Kettering*  
President.

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NOTE: "Received Nov 7 1921 Lamot du Pont" and "Answered Nov 19 1921 Lamot du Pont" are stamped at top and "Return to Executive Committee Room 9069" is stamped at bottom of page. "GMC 1536" is written at bottom of page. "S" is stamped at top right of page. Italics indicate handwriting.



4279

E. I. DU PONT DE NEMOURS & COMPANY  
(Incorporated)  
Wilmington, Delaware

VICE-PRESIDENT

October 31, 1921.

MR. P. S. DU PONT:

You recently asked me for a copy of the proposed agreement between General Motors Corporation and du Pont, covering chemical experimental work done by du Pont for General Motors. I am enclosing copy.

You will recall that this agreement was approved by du Pont Executive Committee and sent Mr. Kettering with the belief that he would approve and forward with recommendation to the proper authority in General Motors Company.

*L du Pont*  
VICE-PRESIDENT.

LduP/MD.

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NOTE: A check mark and "see ? marks" in handwriting appear next to name of addressee at top. "gmc-796d" is written at bottom of page. Italics indicate handwriting.

2000

4280

Copy: Dr. C. L. Reese.

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE

EXECUTIVE OFFICES

March 27, 1922.

Mr. C. F. Kettering, President;  
General Motors Research Corp.,  
Dayton, Ohio.

My dear Mr. Kettering:

GENERAL MOTORS—DU PONT CONTRACT  
REGARDING EXPERIMENTAL CHEMICAL WORK.

On October 21st you wrote me that you expected to arrange a meeting in New York during the week of the Automobile Show and take up the whole problem of an arrangement between General Motors and du Pont with respect to experimental work, and particularly the problem with relation to the fuel development work.

On October 24th I replied to your letter, pointing out the unsatisfactory conditions which existed while there was no contract in force, and urging that an agreement be executed.

On November 5th you replied, stating that "a very good understanding is now being worked out between the two companies and there is reason to believe that the matter will be settled to our mutual satisfaction in the near future."

Since then I have heard nothing from you or anyone else on this subject, except some correspondence with Mr. P. S. du Pont in regard to the meaning of the draft-

—2—

ed contract which had been previously prepared, and except

4281

some correspondence I have seen between your men and our Chemical Department with respect to the fuel problem. Please understand that the fuel problem is in no way the cause of my writing this letter.

I feel that a general contract should be prepared and executed in order to clear up the present situation, which appears to me undesirable. The draft that was prepared and submitted to you before, appears to me satisfactory, but if it is unsatisfactory to you, I have no objection to its change.

Is there anything I can do to insure a mutually satisfactory contract being drafted and executed?

Yours very truly,

*L du Pont*

VICE-PRESIDENT.

LduP/MD

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NOTE: "Mar 28 C.F.K." is stamped at top of first page. Italics indicate handwriting.

4282

GENERAL MOTORS RESEARCH CORPORATION  
DAYTON, OHIO.

March 29, 1922.

Mr. L. duPont, Vice President,  
E. I. duPont de Nemours & Company,  
Wilmington, Del.

My dear Mr. duPont:—

In reply to your letter of March 27th, I had talked to Mr. P. S. duPont in Detroit last week with reference to this matter. Our fuel work here is reaching a point where we are considering marketing more or less of this product and I suggested to him that it would be well, after a meeting of some of the officials here this coming week, to get some representatives of the duPont Company to come to Dayton so that they might get a picture of what our problems really are.

I think, after that time, if we find that it would be desirable to enter into a contract, such a thing could be readily worked out.

Yours very truly,

*Ket*  
President.

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NOTE: "Received Mar 31 1922 Lammot du Pont" and "Answered Apr 1 1922 Lammot du Pont" are stamped at top of page and "Return to Executive Committee Room 9069" is stamped at bottom of page. "GMC 1547" is written at bottom of page. Italics indicate handwriting.

2003



4283

Letterhead of  
E. I. DU PONT<sup>DE</sup> NEMOURS & COMPANY  
(INCORPORATED)

WILMINGTON, DELAWARE

EXECUTIVE OFFICES

April 1, 1922.

Mr. C. F. Kettering, President,  
General Motors Research Corp.,  
Dayton, Ohio.

Dear Sir:

I have yours of March 29th in regard to contract between General Motors and du Pont Company, covering chemical experimental work. You seem to have missed my point entirely. May I go over the ground briefly again?

General Motors, in its research work, frequently runs into chemical problems. du Pont Company, in its research work, is continually dealing with all kinds of chemical problems, and therefore carries at all times a large and experienced chemical staff. Duplication of this staff can be avoided by an arrangement whereby General Motors has a contract with du Pont, whereby it can assign chemical problems to du Pont whenever desired. This arrangement must provide for some form of compensation or payment of expenses and for the assignment of valuable rights resulting from the work; for otherwise the assignment of each particular problem would require a conference and settlement of each case before work could proceed, which obviously would cause delay and loss.

Why can we not execute a general contract to cover any and all future cases?

The only reason I can see for not doing so is the decision by General Motors to establish their own chemical staff. If you have come to this conclusion, I have no objection as a representative of the du Pont Company, and have nothing more to say.

Yours very truly,

*L du Pont*  
VICE-PRESIDENT.

LduP/MD

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NOTE: Italics indicate handwriting.

4285

GENERAL MOTORS RESEARCH CORPORATION

DAYTON, OHIO.

April 3, 1922.

Mr. L. duPont, Vice President,  
E. I. duPont de Nemours & Company,  
Wilmington, Del.

My dear Mr. duPont:—

I am in receipt of your letter of April 1st and I certainly want to thank you for writing to me because it is evident that we have been looking at this problem from an entirely different point of view.

We have always had, in our Dayton organization, and this is true in some other General Motors plants, a chemical department whose work has been a cross between the routine chemical work to be found in any manufacturing plant, and the research work that the writer has been attempting to do for a number of years. When we were all brought together under the head of the Research Corporation we, naturally, brought our work into this chemical division.

I am giving you, herewith, the organization which we now have, and have had for a great many years. We have, as you can see from this outline, a metallurgical division, in which the general questions of materials and their applications are studied, together with such research work as may be found necessary in the production of new materials. In the control division, routine analyses are made. There is

also a large laboratory in Detroit which is working as a control laboratory for the plants in Detroit and that vicinity. This comes under the supervision of Mr. J. B. Daily.

We have had a fuel program here at Dayton in which we have, perhaps, done more real chemical development work than any other division. We have been working something over seven years in trying to analyze the fundamentals of combustion and those things which control combustion. It is in this particular phase of the work where the duPont Company could be of a great deal of value. And that is the reason why, in my last letter, I mentioned the fact that after the meeting which we expect to have here tomorrow, it would be a good thing if you or one of your representatives could come here so we could get together on this subject, because I feel that the work which you did for us here at the laboratory has fallen way short of the net value that it should have for the reason that the two organizations did not understand their problems in the same way.

—2—

There has never been any question in my mind but that the duPont organization could supplement the work of our laboratory to a tremendous degree and it has always been my desire that this should be done, but we have never been quite able to couple up, even though we attempted at one time, as you know, to get such an agreement through.

We have had, in connection with the research work here, some consulting work which has been done through the Massachusetts Institute of Technology and different ones of the larger Universities. This, of course, cost us a relatively small amount of money, which has aided somewhat in keeping the cost of our research work as low as possible.



I feel sure that if some of your associates could come out and spend a day with us here and see specifically what we are aiming at, there would be no difficulty whatever in getting together and working this matter out. We believe, and I think you will agree with us, that it is necessary to have our own organization, so far as our specific work is concerned.

Yours very truly,

*C F Kettering.*  
President.

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NOTE: "Received Apr 10 1922 Lammot du Pont" and "Answered Apr 14 1922 Lammot du Pont" are stamped at top of first page. "Return to Executive Committee Room 9069" is stamped at bottom of first two pages. "GMC 1549" is written at bottom of each page. Italics indicate handwriting.

# CHEMICAL AND PHYSICAL TESTS CONDUCTED DURING MONTH OF MARCH:

DIVISION	NUMBER OF TESTS
The Dayton Wright Airplane Company . . . .	242
The Dayton Engineering Laboratories Com- pany . . . . .	160
The Delco-Light Company . . . . .	57
Research Laboratory (Tests in connection with incoming inspection, broken car- parts, regular research work, paint and enamel investigation) . . . . .	625
TOTAL . . . . .	1084

## SPECIAL INVESTIGATIONS UNDER WAY (APRIL 1, 1922):

1. Corrosion (Cadillac chains);
2. Ignition contact points;
3. Brake lining;
4. Specifications;
5. Broken car-parts;
6. Sulphur-base cutting oil;
7. Oilless bushings;
8. Wheels;
9. Balances on the dynamometer;
10. Enameling and varnish drying practices;
11. Ignition and generator for light cars;
12. Standardization of test equipment;
13. Brushes.



**THE  
CHEMICAL & METALLURGICAL ORGANIZATIONS  
BELONGING TO THE  
GENERAL MOTORS RESEARCH CORPORATION  
AND THEIR DUTIES**

FUEL SECTION	CHEMICAL AND METALLURGICAL CONTROL SECTION	CHEMICAL AND METALLURGICAL RESEARCH SECTION
THOMAS MIDGLEY, JR. Chief Engineer	H. C. MOUGEY Control Chemist	H. M. WILLIAMS Metallurgist
FUEL RESEARCH	H. R. Wolf Principal Ass't	Miscellaneous research problems;
Thomas A. Boyd, Fuel Engineer		Special assignments;
James P. Andrew Ass't Chemist	CHEMISTRY DEPARTMENT	New methods of finishing sheet steel;
Ultimate fuel of future;	R. J. Wirshing Assistant Chemist	Alloy development
How to eliminate the knock;	Chemical analysis;	Bearing metals;
Prevention of carbon formation	Chemical standards;	Anti-rust alloys;
Burning of heavy hydrocarbons;	Electroplating;	Heat-resisting alloys;
Crankcase dilution;	Records.	Induction-furnace development;
Lubrication;		SPECIAL PROBLEMS
Special:	ENG. MATERIALS TESTING LABORATORY	A. L. Boegehold Research Engineer
(1) Study of possibility of utilization of energy from sunlight by fixation thru vegetation	H. R. Wolf	Magnet steel;
(2) Synthetic production of hydrocarbons from the elements.	Heat treatment;	High-duty cast iron;
(3) Bibliographic study of the possibility of converting heat or light into electrical energy.	Standards (SAE);	Low-melting-point solder;
	Pyrometer calibration;	Aluminum casting alloys;
	Production of test bars and chemical samples;	Metallography;
	Mechanical testing;	Grapho-bronze bushings
	Routine testing;	
	Fatigue testing.	METALLOGRAPHIC DEPARTMENT
		Andreas Hartel, In Charge
(2) Synthetic production of hydrocarbons from the elements.	Heat treatment;	
(3) Bibliographic study of the possibility of converting heat or light into electrical energy.	Standards (SAE);	Metallography;
	Pyrometer calibration;	Grapho-bronze bushings
	Production of test bars and chemical samples;	
	Mechanical testing;	METALLOGRAPHIC DEPARTMENT
	Routine testing;	Andreas Hartel, In Charge
	Fatigue testing.	
CARBURETION	TECHNICAL STANDARDS	FOUNDRY
F. E. Aseltine, Research Engineer	H. C. Mougey	T. B. Terry, Supervisor
Carburetors and manifolding systems	Technical control;	J. F. McClintic, Foreman
	Raw materials inspection;	Grey iron, brass, bronze and aluminum castings
EXPERIMENTAL AND DYNAMOMETER LABORATORY	Processing;	Synthetic cast iron;
C. P. Harding	Reduction of design to metallurgical practice	Plastic molding;
Experimental construction;	CONSULTING ENGINEERING SERVICE TO ANY 'GENERAL MOTORS' PLANT NEEDING SAME	Permanent molds;
Instrumentations;		Attaching aluminum fins to cast iron;
Special tools;	OUTLINE OF CHEMICAL LABORATORY ORGANIZATION	Casting copper fins into cast iron;
Etc.		Copper heads;
		Welding methods;
SPECIAL ASSIGNMENTS		Sound steel castings
John Sheats	Office work, charts, etc. .... 1	V. W. Bihlman, Physicist
	Steel ..... 3	Physical constants;
	Non-ferrous alloys... 1	Conductivity (heat) studies;
	Petroleum products, misc. .... 1	Problems pertaining to air-cooling and heat relationships in general;
	Misc. .... 1	Expansion measurements;
	Enamels ..... 1	Etc.
	8	

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Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE

EXECUTIVE OFFICES

April 14, 1922.

Mr. C. F. Kettering, President,  
General Motors Research Corporation,  
Dayton, Ohio.

My dear Mr. Kettering:

I am in receipt of yours April 3d in regard to contract between General Motors and du Pont with respect to chemical research, and am very pleased to note that there is no question in your mind that co-operation between the two companies on chemical work will be advantageous; and am also glad to note that it is your desire that this co-operation should be obtained.

The first thing to decide is the general manner in which the co-operation should be obtained. I feel that, for the present at least, an arrangement should be made whereby General Motors can, when General Motors desires, call on the services of the du Pont organization and not be obligated to call for any work or to bear any charges or expense unless General Motors does call for such work. I think you agree in this also.



The next thing to decide is how the charges shall be divided if, and when, General Motors calls for work by du Pont Company. This question of division of charges was outlined in the contract which was drawn up, approved by du Pont Company, and sent you for signature many months ago. I am enclosing copy of this agreement

— 2 —

in case you desire to refresh your mind on its provisions.

Assuming that we have agreed on the method of apportioning the expense of any work done by du Pont Company, and assuming that the contract enclosed (or a similar one) is executed, then we can proceed to get together and find out what work is to be done, either by a conference or, in my opinion, better by sending one or more of our men to your laboratory to study your problems and find out what can be done to aid your work and make recommendations to you as to what work you should call upon the du Pont organization to do.

You will note that this contract does not refer to any specific problem: the fuel problem or any other, but provides a basis of handling any problems that may arise in the future, and applies only when, and if, General Motors requests the du Pont Company to take up any work, so that after the contract is signed, control of the work is entirely in your hands.

Won't you consider this matter entirely from the standpoint of the future? and advise me whether you do not approve executing a contract to accomplish the purposes we desire to accomplish, stating in what respects

the contract enclosed is unsatisfactory and how it may be modified to make it satisfactory.

Yours very truly,

*LduPont*  
VICE-PRESIDENT.

LduP/MD

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NOTE: "Apr 17 C.F.K." is stamped at top of first page and "Return to Executive Committee Room 9069" is stamped at bottom of second and third pages. "GMC 1551" is written at bottom of each page. Italics indicate handwriting.

4293

GENERAL MOTORS RESEARCH CORPORATION  
DAYTON, OHIO.

May 8, 1922.

Mr. L. duPont, Vice Pres.,  
E.I. duPont de Nemours & Co.,  
Wilmington, Del.

My dear Mr. duPont:-

Your letter, together with proposed contract between the General Motors Corporation and the duPont Company, has been received.

In going through this matter I consider that this is entirely outside the range of the Research Laboratory to enter into a contract of this kind. I am, therefore, turning the matter over to the head of our Corporation and any plan which they may work out will be entirely satisfactory to us.

Yours very truly,

*C F Kettering*  
President.

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NOTE: "Received May 10 1922 Lamot du Pont" is stamped at top and "GMC 1553B" is written at bottom of page. Italics indicate handwriting. A check mark appears at the top of the page.

4294

GENERAL MOTORS RESEARCH CORPORATION

DAYTON, OHIO.

May 2, 1922.

Mr. P.S. duPont, President,  
General Motors Corporation,  
224 W. 57th St., New York.

My dear Mr. duPont:—

Enclosed, herewith, is a copy of contract, together with  
letter from Mr. L. duPont, and a copy of my letter to him.  
This whole matter is self explanatory.

Yours very truly,

*C F Kettering*  
President.

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NOTE: "Return to Executive Committee Room 9069"  
is stamped at bottom and "PS's Desk" is written at top of  
page. "GMC 1552" is written at bottom of page. Italics  
indicate handwriting. Illegible mark appears at upper left.

2015



4295

MEMORANDUM FOR FILE.

In conversation with Mr. P. S. du Pont he advised that it does not seem possible at this time to institute any plan for co-operation on chemical research work between General Motors Corporation, his feeling being that, as problems come up, special arrangements with reference to each should be made between the two Companies, rather than attempt now to make a general arrangement to cover prospective cases.

L. DU PONT, VICE-PRESIDENT.

LduP/MD  
November 6, 1922.

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NOTE: "Return to Executive Committee Room 9069" is stamped at bottom of page. "X-1100" and "8" (with a large check mark) are written at top of page. "GMC 1562" is written at bottom of page.

2016

4296

C O P Y

GENERAL MOTORS CORPORATION  
1764 Broadway  
New York, N.Y.

October 28, 1919.

C.M. Stine,  
E.I. duPont de Nemours & Co.,  
Wilmington, Delaware.

Dear Sir:—

With reference to the matter of fuel investigations, I have discussed the situation with Mr. Durant and Mr. Kettering at length. Replying to your letter of October 2nd, to Mr. Durant, and referring to your memorandum of September 27th to the Eastern Laboratory, I find that the Dayton Metal Products Company is arranging to send you immediately a single cylinder engine and indicator, as covered in your discussion of a plan for carrying out your fuel investigation, with Mr. Kettering. The Dayton Laboratories will continue the broad subject of fuel utilization in internal combustion engines, and your people will take up the development of chemicals which may be added to undesirable fuels for the purpose of converting them into usable products. I believe it is Mr. Kettering's idea to produce, if possible, something that may be added at slight expense in small quantities, in a convenient form.

It is presumed that the marketing of this chemical will be a matter of interest to the duPont organization, and that the expense of developing it will be borne by your Research Department. We are glad to lend the mechanical equip-

2017

4297

ment indicated above without charge for the purpose of this investigation.

For your information, Mr. Kettering has been appointed Director of all our technical and engineering developments and research work, and I am sure he will be glad to know that you are ready and anxious to begin work on this important subject.

Yours very truly,

K. W. Zimmerschied.

Assistant to the President.

KWZ:M.

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NOTE: At lower right is written "GMC-781a".

4298

August 5, 1920.

E. I. DuPont De Nemours & Company,  
Wilmington, Delaware.

Attention: Dr. Reese,  
Chemical Director.

Gentlemen:—

Confirming our conference on my recent visit to Wilmington: I understand that the DuPont Company will co-operate with our Company in placing aniline on the market for use as an anti-knock material, in connection with the aniline injector which we are developing.

The first phase of this program would consist in one of the General Motors Companies marketing an aniline injector thru the ordinary channels of accessory dealers. The DuPont Company would simultaneously put aniline in small quantities, such as pints, or quarts, or perhaps, gallons, which could be sold in conjunction with the injector.

A further working out of this program would comprise the sale of aniline in bulk by the DuPont Company thru some satisfactory distributing agency, such as has been suggested by the Standard Oil Company, who could give aniline national distribution, similar to lubricating oil, selling same in bulk at the filling stations.

In connection with the above, it was agreed that we would co-operate with DuPont in securing satisfactory patent protection on the above mentioned devices.

Other matters came up for discussion, such as the advisability of serious research upon the production of liquid fuel

2019-A



4299

from cellulose and other vegetable matter, but no definite program was decided upon.

The above outlines the writer's impression of the conference, and this letter is to confirm same.

Very truly yours,

General Motors Research Corporation.

TM/M

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NOTE: Check marks are by hand

4300

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

August 14, 1920.

EXECUTIVE OFFICES

Mr. C. F. Kettering,  
Director of Research,  
Dayton-Wright Division,  
General Motors Corporation,  
Dayton, Ohio.

Dear Sir:

Dr. Stine has handed me a draft of Mr. Midgley's letter of August 5th addressed E. I. du Pont de Nemours & Company, for attention of Dr. Reese, confirming the results of conference in Wilmington between Mr. Midgley and various representatives of the du Pont Company in regard to the co-operation between General Motors and du Pont for the handling of aniline for use as an anti-knock material.

I believe Mr. Midgley's letter is a correct condensed memorandum of the results of that conference, except in one respect, and that a very important respect: We agreed that the du Pont Company would co-operate with General Motors on this aniline subject, provided the manufacture, distribution and sale of aniline for this purpose appeared sufficiently attractive from the profit standpoint.

In view of this provision it seems to me the first step would be a thorough investigation of the market and the possibilities and a report showing the

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reasonable expectation, from the profit standpoint, of General Motors and du Pont taking up the project. Assuming that this step was taken first, it would appear that the other steps mentioned by Mr. Midgley would be next in order.

Yours very truly,

*L du Pont*  
VICE-PRESIDENT.

LduP/MD

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NOTE: Italics indicate handwriting.

4302

GENERAL MOTORS CORPORATION

Mr. Irenée duPont

DETROIT March 24, 1922

I am enclosing herewith brief report on the gasoline  
"dope" situation. The development looks very promising.

Very truly yours,

*J. J. L. G. T.*

1/•

2022



Mr. Kettering stated that his new doping compound, Tetra-Lead-Ethyl, may be used effectively in the proportion of one gallon to 1,000 or 1,500 of gasoline. The use of this dope will result in a saving of at least one quarter of the gasoline ordinarily consumed in an engine, and will permit of increasing compression very materially. The cost of the compound, at the rate of 100 gallons per day, should be not more than \$5 or \$6 per gallon, and he believes the factory can be erected for \$50,000.

The compound is made by preparing ethyl iodide from alcohol and iodine, permitting this to be acted upon by zinc dust plated with copper, the plating being necessary to produce the reaction. Zinc-ethyl is formed and is distilled off. Zinc ethyl is highly inflammable when exposed to the air, but Kettering believes no more dangerous to work with than hot oils. Zinc Ethyl is brought into contact with dry lead chloride, which forms zinc chloride a compound  $Pb_2(O_2H_5)_4$ . This compound further breaks down into metallic lead and tetra lead ethyl  $Pb_4(O_2H_5)_4$ . Lead ethyl is a colorless liquid of sweetish odor, very poisonous if absorbed through the skin, resulting in lead poisoning almost immediately. In practice Kettering recommends that the material be made ill-smelling through the addition of some pungent material, in order to avoid danger of poison by inhaling the fumes.

In order to start the use of this material, Kettering proposes that Cadillac design a new cylinder head, increasing compression (this is now being done). Every Cadillac car equipped with this new head will be provided a gas tank containing in a separate compartment two metallic bottles, each containing a quart of lead ethyl. These bottles will be sealed with a metallic seal, which will be punctured automatically when the bottle is placed in position for use. A small hand pump will deliver a charge sufficient for five gallons of gasoline at one stroke, so that as the gasoline tank is filled, one stroke of the pump to each five gallons will supply the necessary dope. An over-supply does not result in any injury, and an under-supply would quickly be shown in the knocking of the engine, so that mistakes would not be serious. The two flasks would run a Cadillac car 7,500 miles, so that the re-charging feature would not be serious.

Without dope the car could be operated successfully at half throttle, i.e. would not be useless. With the dope, the car would have an additional 25% horsepower, and gasoline consumption would be materially reduced.

In order to make this program effective, a plant of 100 gallons daily capacity should be erected. The next step in the program would be to try to introduce the dope as a commercial article supplied with the gasoline. It would require about 4,500,000 gallons per annum to dope the entire gasoline supply.

Kettering would like to take up the question of manufacture with the duPont company representatives at an early date.

4304

COPY

M—E. I. du Pont

April 15, 1922.

Doctor C. M. Stine,  
E. I. du Pont de Nemours & Co.,  
Wilmington, Delaware.

Dear Doctor Stine: —

Thanks very much for your recent favor and your suggestion about tannic acid. We have tried tannic acid as an antiknock material and find it has no value whatsoever. The anti-oxidation catalysts have failed to show any such property and I do not think we can associate these two characteristics in any wise.

It becomes my very pleasant privilege to tell you about the new antiknock material which we have recently discovered. This is tetra-ethyl-lead and is 50 times as powerful by volume as anilin. It has no corrosive action whatever and remains water white; has no unpleasant odor nor does it give rise to any obnoxious products in the exhaust. In other words it appears to be a perfect anti-knock material. We are very hopeful of producing it at the same cost as anilin.

We recently produced some "tetraline" for the United States Rubber Company. You have undoubtedly seen the publicity the Germans have given tetrahydronaphthaline, in fact, I think you called my attention to this matter. After producing tetrahydronaphthaline we naturally paid some attention to its possibility as a motor fuel and to be perfectly

none  
frank, it has ~~known~~ Ordinary grade of kerosene would be far superior. Consequently I am under the opinion that the Germans are very cheerfully lying and I am wondering if

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this may not be a camouflage for a base for high explosives. As such, I should like to call your attention to the matter and suggest that if you desire a small quantity of this material we could produce it for you at cost.

Please do not misunderstand the attitude our laboratory has taken toward your Company with respect to cooperative research. We are very heartily in favor of doing everything we can for you and having you do everything you

—2—

can for is. It is simply the matter of a formal agreement, which I personally believe would be out of place, that is causing all the misunderstanding.

Always with the kindest personal regards, I am

Very truly yours,

Chief Engineer,  
Fuel Section.

TM—Jr—D

NOTE: In the lower right corner of both pages is written "GMC-973".

[2025]

4306

July 10, 1922.

Mr. C. F. Kettering,  
c/o Dayton Engineering Laboratories,  
Dayton, Ohio.

Dear Mr. Kettering:

Am just dropping you a line to thank you for the very pleasant time I had while visiting your laboratories on Thursday last. The visit was certainly most interesting and instructive.

On returning I find the attached circular of A. A. Hassan. I do not suppose this topic is of material interest to you but am sending it to you thinking that it might be included in your files rather than mine.

Am looking forward to a visit from you next week. I am trying to arrange it so that you will meet some of our men in the Dye Division as well as those in our Research Department. When you come, will you bring your latest information on the production of "dope" by the bromine method.

Yours sincerely,

Irene duPont

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NOTE: "C-26" is written in upper right corner of page and "FILE COPY" is printed across page.

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4307

July 12, 1922.

Dr. C. M. Stine  
Mr. W. F. Harrington  
Dr. C. L. Reese

Mr. C. F. Kettering, Manager of the Dayton Engineering Laboratories will be in Wilmington on Thursday, July 20th. I am very anxious that we "sell" our ability to help them on the Tetra-ethyl lead proposition.

Trust that you will be available.

Irénée duPont

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NOTE: "C-26" is written at top right and "FILE COPY" is printed across page. Scoring in third line is by hand.

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4308

September 5, 1933

To: Executive Committee, General Motors Corporation,  
Mr. L. R. Beardslee, Sec'y

From: General Motors Research Corporation

Subject: REPORT OF RESEARCH LABORATORIES FOR THE MONTH OF  
AUGUST

• • •

FUEL RESEARCH SECTION:

The principal developments during the past month in the work on the use of lead compounds as antiknock materials were as follows:

- (1) The method for the preparation of tetraethyl lead using ethyl bromide instead of ethyl iodide was developed to the point at which very good yields were obtained.
- (2) A satisfactory method was worked out for the recovery of the bromine from the residue obtained in the synthesis of tetraethyl lead.
- (3) Production work on a small scale, using our sodium-lead and ethyl bromide process, was begun at the dye works of the duPont Company. They are now producing about a gallon of lead tetraethyl per day.
- (4) Very satisfactory progress has been made at Massachusetts Institute of Technology in studying the mechanism of reactions occurring in the synthesis of tetraethyl lead.
- (5) The most important development of the month is the discovery of conditions under which other materials can be used in place of sodium in the synthesis of lead tetraethyl. It has been found that either

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zinc or aluminum may be substituted for sodium, and that, with these metals, it is not necessary to make an alloy with lead in order to get the reaction to go. The results so far obtained in this work indicate that probably any metal that will liberate hydrogen from water may be used instead of sodium, and further that catalytic reduction with hydrogen is a possibility.

- (6) In view of the satisfactory progress that is being made on the production program and of certain problems incident to the use of lead compounds as antiknock materials, it has been decided to drop production, as well as research on production here. Production will be continued at the duPont Company, and research on methods of production will be actively continued at the Massachusetts Institute of Technology. The research work at this laboratory will be concentrated on the solution of the spark-plug and exhaust-valve troubles that have been experienced in the use of lead compounds as antiknock materials.

• • •

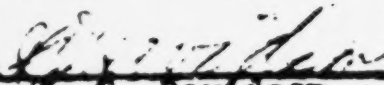
Respectfully yours,

F. O. CLEMENTS

Director of Research

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I hereby certify that the foregoing is a true excerpt from a report entitled "Report of Research Laboratories for the Month of August" from General Motors Research Corporation to the Executive Committee, General Motors Corporation, dated September 5, 1922.

  
\_\_\_\_\_  
J. C. Davidson  
Assistant Secretary  
General Motors Corporation

May 16, 1951

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4311

September 27, 1922.

Mr. C. F. Kettering, President,  
General Motors Research Corporation,  
Dayton, Ohio.

My dear Ket:—

I was just talking over the telephone with Mr. Irene duPont and he believes it would be desirable, as I think you do as evidenced by our discussion in Detroit week before last, that a more definite arrangement be made between the duPont Company and ourselves relative to the work that they are doing.

Mr. duPont asked me when you were going to be in New York next and knowing you had promised to be here Friday of next week, October 6th, I have taken the liberty of making an appointment with Mr. Irene duPont and Mr. Huntington, I believe it is, here in my office at 12 o'clock on Friday. This will mean that you will have to leave on the afternoon train Thursday, arriving here about 9:30, I believe it is, in the morning. We are now on Eastern standard time so that allowing for the train to be late, you could be here probably somewhere around noon.

Unless you advise me by wire upon receipt of this, that there is some reason why you can't make this or do not think it advisable, we will consider the date definitely set.

Very truly yours,

A.P.S. Jr./K  
c/c Mr. Irene duPont

VICE PRESIDENT.

NOTE: "1-802 Policy Construction Work." is written in upper left corner.

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4312

THIS AGREEMENT, made this sixth day of October, 1922, between E. I. duPONT deNEMOURS & COMPANY, a corporation of the State of Delaware, hereafter referred to as "Manufacturer", party of the first part, and GENERAL MOTORS CORPORATION, also a corporation of the State of Delaware, hereinafter referred to as "Purchaser", party of the second part,

WHEREAS, the Purchaser is now engaged in developing certain anti knock compounds known generally as "tetra valent lead compounds", and

WHEREAS, the Purchaser is desirous that said compounds be manufactured for and sold to it by the Manufacturer, and the Manufacturer is willing so to do in accordance with the following terms and conditions,

NOW, THEREFORE, this agreement witnesseth that in consideration of the premises and of the sum of Five Dollars (\$5.00) paid by each of the parties hereto unto the other, the receipt of which is hereby acknowledged by each of said parties, it is hereby agreed:

FIRST: The Manufacturer agrees to install such equipment and apparatus as may be necessary to produce at least thirteen hundred pounds (1300) a day of said anti knock compound, the formula for which has been heretofore furnished to it by the Purchaser, and shall sell and deliver the same to the Purchaser f.o.b. Wilmington at the rate of two dollars (\$2.00) for each of such pounds, such delivery of said compound to the Purchaser shall begin not later than four months from the date that the Purchaser may notify the Manufacturer that it is prepared to accept the same, and

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shall continue at the rate of approximately thirteen hundred

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pounds per day for the period of one year after the date of such notification, it being understood however that the aggregate number of daily shipments embraced within said year shall not exceed three hundred.

Invoices shall be rendered by the Manufacturer to the Purchaser on the first day of each month during the continuance of this agreement for all such deliveries made to it during the preceding month and paid promptly and in due course by the Purchaser.

SECOND: Should the Purchaser desire to change or alter the formula of said compound at any time during the continuance of this agreement, it shall have the right so to do, but such change shall not become effective until three months after written notice of such desire has been delivered by it to the Manufacturer, unless the Manufacturer elects to furnish the same within a shorter time.

Should any such change in said formula occasion a change or alteration in the premises or apparatus used by the Manufacturer in manufacturing said compound, the full cost thereof shall be borne by the Purchaser and the Purchaser shall also pay the Manufacturer any additional cost incident to such manufacture. If, however, such change of formula results in a less cost to the Manufacturer, the Manufacturer shall give the Purchaser the benefit thereof.

THIRD: If during the aforementioned period of one year the Purchaser shall desire the Manufacturer to deliver to it a greater quantity of said compound than thirteen hundred pounds per day, and the Manufacturer is unwilling

—3—

or unable so to do, the Purchaser shall be at full liberty to manufacture ~~the same itself~~ or cause to be manufactured any such remaining quantity.

PSduPont  
IduP.

FOURTH: The Purchaser shall, not later than three months from the termination of the period of one year mentioned in the first paragraph hereof, and prior to three months from the termination of each succeeding year thereafter, notify the Manufacturer in writing of its daily requirements for said compound for the succeeding twelve months and the Manufacturer shall, within thirty days from the date it receives said notice, advise the Purchaser in writing whether or not it will furnish the same, the price thereof, the dates of delivery and the approximate number of pounds to be delivered. Should the Manufacturer be unable or unwilling to furnish the whole number of pounds of said compound desired by the Purchaser, it shall so advise the Purchaser within thirty days from the date it receives said notice, and shall at the same time advise the Purchaser of the number of pounds it will furnish per day and the price thereof, and the Manufacturer shall then be at full liberty to manufacture or cause to be manufactured for it such remaining number of pounds.

FIFTH: The price of Two Dollars (\$2.00) per pound for said compound as stated in the first paragraph hereof, shall not be subject to change during the period of one year as therein mentioned, except as provided in the second paragraph hereof, but the price quoted for such compound for the yearly requirements of the Purchaser, as mentioned in the third paragraph hereof, shall if greater than the Purchaser finds it can produce or manufacture the same for on its own behalf, plus a reasonable profit to the Manufacturer, or the cost thereof to

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it by some other manufacturer, then the manufacturer shall reduce its price accordingly, and if unwilling so to do, the



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matter shall be referred to arbitration, as provided in the eighth paragraph hereof.

SIXTH: It is understood that this agreement is to be a continuing one, and is subject to cancellation by the Purchaser only in the event of the Manufacturer failing to perform its obligations hereunder, but the Manufacturer may cancel the same at any time after a notice in writing of such intention given by it to the Purchaser at least twelve months prior to the date of such intended cancellation. The Manufacturer shall also undertake to deliver to the Purchaser during each year of this agreement, including the twelve months succeeding the date of said cancellation notice, if given, a number of pounds of said compound at least equal to the number thereof furnished by it during the preceding twelve months.

Should the Purchaser desire to discontinue the use of anti knock compound during the first year of this agreement, it may cancel the same but should it do so, it shall take over, at cost, such materials as may have been provided by the Manufacturer for the purpose of complying with its obligations hereunder and shall purchase all such finished product as the Manufacturer may have produced at \$2.00 a pound. The Purchaser shall also pay the Manufacturer the portion of the ~~cost~~ of the plant constructed for such production as the unfilled portion of the order bears to the total order.

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SEVENTH: The Manufacturer agrees that it will not manufacture said compound for any other person and will not during the continuance of this agreement manufacture or sell any anti knock compound for or on account of any person

other than the Purchaser, whether of a like or similar nature without the consent of the Purchaser. Further, the Manufacturer agrees that if at any time during the term of this agreement it invents, originates or develops an anti knock compound or any apparatus, device or other matter or thing in anywise connected with or relating to the manufacture of an anti knock compound and which may be capable of being patented in the United States of America or elsewhere, that it will take all necessary steps so to do, and will promptly assign all applications for such patents to the Purchaser upon its request. It also agrees to keep the Purchaser fully advised of all developments made by it in connection with any such invention and will accept the advice and assistance of the Patent Department of the Purchaser in connection with any questions relating to the patent situation surrounding any such invention. The Purchaser agrees to pay the cost of filing and maintaining any such patent so acquired or applied for by the Manufacturer.

EIGHTH: In the event of any dispute arising hereto as to the price to be charged by the Manufacturer for anti knock compound, or the amount to be received by it from the Purchaser should this agreement be cancelled by the Purchaser as hereinbefore provided, the question at issue shall be submitted to arbitration. In such case the party aggrieved or moving in the matter shall give to the other party written

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notice of its desire to have an arbitration, in which it shall state generally its grievance and name an arbitrator, and the

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other party thereupon shall name an arbitrator within ten (10) days after the receipt of such notice, and in case of failure to do so, the moving party may appoint the second arbitrator. The two arbitrators thus appointed (in either manner) shall select a third, and the board of arbitration thus constituted shall thereupon proceed to determine the matter in dispute, and the decision of any two (including the cost of the arbitration) shall be final and conclusive on both parties as to all questions of fact involved in such arbitration. It is understood that all arbitrators appointed hereunder shall be persons who are not connected in any manner with either of the parties hereto or interested, directly or indirectly, in any matter or thing provided for or growing out of this agreement, except and in so far as may be consistent with their duties as arbitrators hereunder.

NINTH: Neither party shall be held liable for damage arising from failure to deliver or to receive anti knock compound hereunder to the extent that it may be prevented by war or insurrections, riots, fires, floods, strikes, lockouts, differences with workmen, accidents to plants of either party or by other delays or hindrances beyond their reasonable control.

TENTH: It is expressly agreed that the deliveries of anti knock compound hereunder shall be made either to the Purchaser, or by its direction to any corporation owned, affiliated with, or controlled by it, and that any and all rights and

—7—

interest possessed by the Purchaser hereunder in this agree-

ment or any of the provisions thereof, shall inure, if it so desires, to the benefit of any such corporation.

WITNESS the hands and seals of the parties hereto.

E. I. duPONT de NEMOURS & COMPANY

By: *Irénée du Pont*

\_\_\_\_\_  
President

Attest:

*C Copeland*

\_\_\_\_\_  
~~Assistant~~ Secretary

GENERAL MOTORS CORPORATION

By: *Pierre S. du Pont*

\_\_\_\_\_  
President

Attest:

*John T. Ardis*

\_\_\_\_\_  
Assistant Secretary

\* NOTE: Deletion, interlineation, and underscoring on third page, and deletion on seventh page, is done by hand. Corporate seal of General Motors Corporation appears over signature of John T. Ardis on seventh page; illegible corporate seal appears to left of signature of Irene du Pont on seventh page. Italics indicate handwriting.



4319

AGREEMENT

between

GENERAL MOTORS CHEMICAL COMPANY

and

STANDARD OIL COMPANY (NEW JERSEY)

THIS AGREEMENT, made this 7th day of January, 1924, between GENERAL MOTORS CHEMICAL COMPANY, a corporation organized and existing under the laws of the State of Delaware, having its principal offices at the City of Dayton, State of Ohio, hereinafter termed "Seller"

and

STANDARD OIL COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal offices at the City of Bayonne, State of New Jersey, hereinafter termed "Buyer"

WHEREAS, the Seller has been and is now engaged in devising and developing certain materials to be mixed with the fuel (gasoline, kerosene or other motor fuel) for internal combustion engines, the object of such admixture being to render such fuel non-knocking, and thereby make it possible to use higher compression pressures in such engines without producing the detonation commonly known as "knock", and with the further advantage of increasing the power output of said engines with attendant economy in fuel consumption; and

WHEREAS, the Seller represents that the preferred material thus far developed for such admixture is an organic compound known as "tetraethyl lead"; and

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WHEREAS, the Seller represents that when tetraethyl lead is mixed in the proportion of about three cubic centimeters per U. S. Standard gallon with a straight run petroleum distillate consisting mainly of paraffin hydrocarbons (for example, straight run distillate from Penn. crude), and just conforming to the "New Navy" Specifications for gasoline now in force, there is produced a motor fuel suitable for use in motors of sufficiently higher compression to warrant their general adoption, and which may be described as a non-knocking fuel equal in this property to a mixture of sixty percent (60%) of the original fuel plus forty per-

—2—

cent (40%) Benzene (commercial (90%) Benzol); and

WHEREAS, the Seller represents that it has discovered the necessary additions in the way of other materials or compounds necessary to prevent certain harmful secondary effects attendant upon the use of tetraethyl lead, the mixture of said materials or compounds with said tetraethyl lead constituting the mixture hereinafter referred to as "anti-knock mixture"; and

WHEREAS, the Buyer represents that it is engaged in the business of selling gasoline to the public, and is now selling and intends to sell during the continuance of this agreement a gasoline which is a sufficient improvement in non-knocking characteristics over the straight run distillate hereinbefore described so that it requires a lesser quantity of tetraethyl lead to produce a satisfactory non-knocking fuel for use in the aforementioned higher compression motors. The Buyer further represents that it is desirous of distributing a gasoline which will in non-knocking characteristics be equivalent to 60% of the hereinbefore described straight run dis-

tillate plus 40% benzene (benzol) and that if the said anti-knock mixture will enable the Buyer to accomplish such purpose, it is willing to purchase the same from the Seller in accordance with and subject to the hereinafter expressed terms and conditions:

NOW THEREFORE, THIS AGREEMENT WITNESSETH:

That in consideration of the premises and of the covenants and agreements hereinafter set forth, the said parties hereby agree as follows:

1.

(a) The period of this contract shall be for no longer than three (3) years from date and shall sooner terminate eighteen months after there shall have been delivered, under this agreement, the first eighteen thousand (18,000) of the Seller's mixing meters and the attachments therefor at a like number of locations.

(b) The Seller hereby grants to the Buyer, for the period of this contract and for the territory hereinafter defined, the exclusive

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right to sell and/or use the Seller's anti-knock mixture, subject only to conditions hereinafter mentioned.

The territory comprises the District of Columbia and the States of Maryland, Virginia, North Carolina, South Carolina, New Jersey, New York, Vermont, Connecticut, Massachusetts, Rhode Island, New Hampshire and Maine.

The Buyer may license, subject to the terms hereof, others to sell and/or use and to license the sale and/or use of the Seller's anti-knock mixture within the defined territory, and the expression "Buyer's Licensees" shall be

deemed to mean all such parties as may from time to time be licensed hereunder.

(d) Buyer agrees that it will not knowingly sell the Seller's anti-knock mixture or any gasoline treated therewith for resale at any point which at the time is covered by any exclusive license contract made by the Seller with any third party, and the Seller agrees that in all future license contracts it will embody substantially this same clause for the protection of the Buyer's exclusive right.

2.

(a) The Seller shall, at its own expense, deliver to the Buyer, or its licensees, on Buyer's orders from time to time given within twelve months from date, eighteen thousand (18,000) mixing meters and attachments therefor above mentioned. The Buyer shall cause these to be installed as promptly as practicable, after demonstration and instruction to be furnished at the Seller's cost. The Seller shall furthermore, reimburse the Buyer for the expense of such installation, which should be assumed to be One Dollar (\$1.00) for each installation until actually determined.

The Seller shall have the right to install any ethylizer thirty days after shipment if the Buyer has for any reason failed to do so.

There shall also be delivered by the Seller, and installed under the same conditions as specified in paragraph (a), such further mixing meters and attachments therefor as the Buyer shall from time to time order for use at other locations not previously equipped with antiknock apparatus.

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(b) A sample of the mixing meters and attachments therefor shall be submitted by the Seller to the Buyer for



the Buyer's approval before installation of the same, but such approval shall not be unreasonably withheld. The Seller shall keep all mixing meters and attachments therefor in good operative order and repair at its own expense during the continuance of this agreement, and shall, upon being notified by the Buyer that any thereof need attention, repair or replace the same promptly. The Seller shall be afforded every reasonable facility and opportunity to enable it properly to inspect any of said meters and attachments therefor whenever it may so desire.

(c) All of said mixing meters and attachments therefor shall be and remain the exclusive property of the Seller. Any of them at any time may be surrendered to the Seller or removed by the Buyer to any new location not previously equipped with anti-knock apparatus. The Buyer shall exercise reasonable diligence for the care and protection of all said mixing meters and attachments and shall be liable or responsible therefor, only for want of the exercise of such reasonable care and caution, and shall not be liable if, although having exercised all such care and caution, the same are lost, stolen or injured.

(d) The Seller further agrees, without expense to the Buyer and promptly upon the Buyer's request, to equip any or all bulk stations with apparatus suitable for mixing said anti-knock mixture with gasoline in bulk, to enable the said mixture to be dispensed from bulk supplies. All such apparatus shall be kept in good order and repair by the Buyer and surrendered to the Seller in good order, less ordinary wear and tear, upon the Buyer wholly ceasing to vend said mixture. The Seller agrees to furnish and deliver without cost to the Buyer, at such place or places as may be designated by the latter, all such extra parts as may be

reasonably required to keep the said apparatus in good order and repair.

(e) The Seller agrees to sell to the Buyer at cost, plus a handling charge, additional mixing meters for use by the Buyer at locations where the Buyer desires more than the one mixing meter furnished by the Seller. The Seller agrees to repurchase these from the Buyer at any time the Buyer wishes to discontinue their use, provided they are in good condition,

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at a price that shall equal their cost less twenty percent (20%) for each year or proportionate part thereof they have been in service.

(f) The Buyer agrees to order from the Seller such quantity of anti-knock mixture as may be reasonably necessary to supply the demands of the public in all such portions of the aforesaid territory as have been equipped with mixing meters, and the Seller will fill all such orders barring unavoidable delay.

(g) The Seller will ship for account of the Buyer and on Buyer's orders and instructions, freight prepaid, anti-knock mixture in suitable containers, which containers shall be the property of the Seller and shall be returned to it at such place or places as the Seller may from time to time designate and at the Seller's cost.

(h) The Buyer agrees that during the continuance of this agreement it will, in adding such anti-knock mixture to gasoline, use such proportion of anti-knock material as may be necessary to maintain the standard of anti-knock value set forth in the preamble of this agreement.

(i) None of the mixing meters, attachments therefor, or apparatus mentioned in this paragraph shall be removed by

the Seller without the consent of the Buyer so long as the same continue to be used for the purpose of vending said mixture.

## 3.

The price to be paid by the Buyer to the Seller for said anti-knock mixture shall be based upon the quantity of tetraethyl lead contained in the anti-knock mixture furnished to the Buyer and shall be Ten Dollars (\$10.00) for each liter thereof contained in said mixture. The proportion of tetraethyl lead in said mixture shall, however, at no time during the continuance of this agreement, be less than one and three-quarters liters in each five liters of said mixture, unless some agreement as to the cost thereof be arrived at between the Buyer and Seller.

Should the Seller reduce the price of said tetraethyl lead or sell the same at a less price to any other purchaser during the continuance of this agreement, it will give a similar reduction to the Buyer.

## 4.

The Seller elects to call the gasoline when mixed

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with the said anti-knock mixture "Ethyl Gas", unless adverse trade-mark rights should develop, and the Buyer agrees that all its advertisements of the same and those of its licensees shall embody the word "Ethyl" or "Ethylized", though not if such adverse trade-mark right develop, in which event the Buyer agrees that said advertisement may embody some other suitable word or words free to be used and which the Seller may elect to be employed therein.

It is understood and agreed, however, that any and all responsibility for trade-mark, label, or analogous infringement, including rights relating to unfair competition, with which the Buyer, and/or its licensees, may be charged for

employing in such advertisements any word or words which Seller shall so elect to employ, shall be assumed by the Seller, and the Buyer, and/or its licensees, shall be held harmless therefrom; and the Seller shall, at its own expense, defend any or all litigation based on such employment and pay any judgment or judgments that may be awarded to the plaintiff in the premises, or the amount of any settlement therein, if settlement be made. In the event of any such litigation or threats thereof, the Seller shall be promptly notified thereof by the Buyer and be entitled to representation by its own counsel in all negotiations or proceedings relative thereto and may assume charge thereof if it shall so desire; but no such settlement shall be made unless by mutual agreement of the parties hereto.

## 5.

The Seller shall advertise in its own name and at its own expense the said anti-knock mixture, in and for the territory covered by this contract, the character of such advertising and the medium thereof to be solely in the Seller's discretion. All such advertising, however, that contains the Buyer's name or refers in any way to the Buyer's products shall be submitted to the Buyer and its approval obtained before being published. The cost of all such advertising shall be as determined by the Seller but shall not be less, in the aggregate amount during any six months period of this agreement than two per cent, (2%) of the cost to the Buyer of the anti-knock mixture purchased from the Seller during the corresponding period. Where any such advertising, however, partakes

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of a general character and is not solely confined to the aforesaid territory, but may be of benefit to the Buyer a fairly proportionate amount of the cost thereof shall be allocated to and included in said two per cent.



No sale of gasoline treated with anti-knock mixture under this contract shall be made at a price in excess of three cents (3¢) per gallon of treated gasoline above the then current price of untreated gasoline.

## 7.

For the purposes of this agreement, anti-knock mixture or material is defined to mean any substance which, when added in a very small amount to gasoline or other motor fuel, tends to suppress detonation.

During the period of this contract, the Buyer agrees:

- a. Not to use commercially or sell any anti-knock mixture or material which infringes upon Seller's patent rights;
- b. Not to use other than Seller's anti-knock mixture in Seller's mixture.

## 8.

During the continuance of this agreement, the Seller will not sell any of the said anti-knock mixture within the aforesaid territory, nor will it knowingly sell any thereof to any person to be sold therein with the exception, however, that it shall have the right to sell said mixture direct to consumers in said territory where and while there shall not be operating apparatus installed under this contract adequate to take care of such business.

## 9.

The Seller shall prepare and submit for the Buyer's approval two forms of information and instruction, one for the guidance of service station and garage employees and any others who may handle the anti-knock mixture or dispense the gasoline, and a second form of directions and information for the consumer. After approval by the Buyer,

these forms shall be printed in convenient form by the Seller and del-

—8—

ivered to the Buyer in sufficient quantities for distribution, and the Buyer shall cause them to be distributed in its territory; and should any suit or suits be brought against the Buyer, and/or its licensees, for injury to person or property arising from the handling or use of any of said mixture that may have been furnished by the Seller and it be established in the prosecution of such suit or suits that, although all of the provisions of said directions were fully complied with by the claimant, such injury nevertheless occurred, the Seller will defray the entire expense of settling the same, or, if not settled out of Court, the Seller shall pay all of the costs of any such litigation, together with the full amount of any judgment that may be rendered against the Buyer, and/or its licensees. The Seller shall be promptly notified by the Buyer of any such suit and it shall be represented by its own counsel in all negotiations or proceedings relative thereto and may assume exclusive charge thereof if it so desires. In case of any other liability for injury to person or property arising from the handling or use of any of said mixture other than that covered by the foregoing portion of this paragraph, such liability and any and all expense incident thereto shall be borne equally by the Seller and Buyer, it being understood that no settlement of any claim for liability shall be made except by mutual agreement of the parties hereto.

If the Seller finds and brings to the attention of the Buyer that any employee of the Buyer, and/or its licensees, is disregarding the aforesaid printed instructions, the Buyer will take such steps as may be necessary to see that the instructions are properly obeyed by him thereafter.

10.

The seller has not as yet obtained Letters Patent of the United States for or relating to any of the anti-knock ma-

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terials or compounds named in this agreement, but has applications therefor pending in the United States Patent Office and will procure the issuance as soon as practicable of Letters Patent upon at least one of such applications to broadly protect the use and sale of the aforesaid anti-knock material.

—9—

11.

The Seller agrees at its own expense to defend the Buyer; and/or its licensees; in any action or actions that may be brought alleging that the use and/or sale of anti-knock mixture so supplied by the Seller, and whether or not containing any admixtures added by the Seller, infringes any Letters Patent of the United States; and the Seller agrees to pay any and all judgments for damages or profits arising out of such litigation that may be assessed against the Buyer, and/or its licensees, thereby saving them harmless therefrom, it being understood that the Seller shall be entitled to representation by its own counsel in any such litigation.

12.

The Seller hereby agrees that it will, at its own expense, bring and prosecute diligently through the Court or Courts of last resort, or otherwise to final adjudication, proceedings against infringers of any United States Letters Patent which may be granted to the Seller for anti-knock materials and/or mixtures, in the aforesaid territory; to the end of establishing its rights under such Letters Patent and protecting the Buyer, and/or its licensees, in their rights hereunder, it being understood that the Buyer shall be entitled to representation by its own counsel in any such litigation.

Any money recovery which may be had in any such proceeding shall be first applied toward defraying the expenses of the Seller therein; any balance for defraying the expenses of the Buyer therein; and, of any further balance, one-half shall be paid to the Buyer to the extent that such recovery shall have been based on acts of infringement committed within the territory covered by this agreement.

## 13.

It is intended that the rights of the Buyer in respect to anti-knock mixture furnished by the Seller under this contract shall apply under any and all Seller's Letters Patent and Patent applications for or relating to anti-knock materials and/or mixtures, so that if the Seller should dispose of any of its patents or applications therefor, to another or others, such rights of the Buyer shall nevertheless continue under

—10—

the terms of this agreement.

## 14.

While tetra-ethyl lead has herein been specified as the anti-knock material particularly considered, it is understood and agreed that this agreement shall equally apply to and cover any or all other anti-knock materials and/or mixtures (meaning any material which, when added in very small amount to gasoline or other motor fuel tends to suppress detonation) which the Seller may have devised or developed or may hereafter acquire, devise or develop, and covered by U. S. Patents, or pending applications therefor, and with which the Buyer may desire or prefer to be supplied. The price of such material shall be the cost to the Seller of the material plus an additional charge for the quantity thereof required to treat each gallon of gasoline equal to the existing difference between the cost and the selling price of the equivalent quantity of tetra-ethyl lead.



All of said mixture that may be sold by the Seller to all person other than the Buyer shall be practically the same in effect as the mixture sold to the Buyer hereunder, and, if the Seller at any time sells or licenses said mixture to anyone on more favorable terms than those hereof, the Buyer shall be so advised by the Seller and be entitled to the benefit thereof.

Within twelve months after the termination of this agreement, the Seller will offer to Buyer a further license to purchase and to use and sell Seller's anti-knock mixture within the territory covered by this agreement, upon terms as favorable as those offered by Seller to any other distributor of gasoline, and will agree, in the event of Buyer's acceptance of said offer, to give Buyer the benefit of any more favorable contract which Seller may make during the term of such further license.

During the time intervening between the termination of this present agreement and Buyer's acceptance of Seller's offer, or the expiration of the twelve months, whichever shall first occur, the Buyer shall be deemed to be operating under a non-exclusive license on the same basis as the present contract.

The Buyer agrees for and during the term of this contract to acknowledge the validity of all Letters Patent issuing upon the aforesaid applications or upon applications hereafter filed by the Seller that are subject to this agreement, and agrees not to contest the validity of the said Letters Patent or to directly or indirectly aid or abet others in doing so.

All of the terms and provisions of this agreement as well as any extension or continuation thereof shall inure to the benefit of and be binding upon the successors of each of the parties hereto.

IN TESTIMONY WHEREOF, the parties hereto have, each by due authority to the subscribing officers, executed these presents the day and year first above written.

GENERAL MOTORS CHEMICAL COMPANY

By C. F. Kettering

President.

Attest:

T. S. Merrill

Secretary

STANDARD OIL COMPANY (New Jersey)

By F. D. Asche, Vice

President

Attest:

E. A. Manning

Assistant Secretary

(Seal)

Conformed:

L.D.M.

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NOTE: At upper right on first page is written "Exhibit B1".

4333

Letterhead of  
E. I. DU PONT DE NEMOURS & Co.  
DYESTUFFS DEPARTMENT

June 15, 1923.

Mr. Irene du Pont, President,  
Building.

TETRA ETHYL LEAD SITUATION

Relative to discussions occasioned by Mr. C.F. Kettering's letter of June 8th, I wish to submit for your consideration for our proposed meeting Saturday afternoon with the General Motors people a few facts, figures and recommendations.

As the party originating the general subject and as the holder of what is presumably the basic patent, the General Motors Corporation is the central point in this affair. They have a contract with us covering a limited output for a year with the understanding that the contract is to be a continuing document provided both parties work together satisfactorily.

It now appears that the Standard Oil people have some sort of a patent on Tetra Ethyl Lead produced from Sodium Chloride on which they have indicated that they can produce at considerably below \$10 per gallon, and have asked for a year's contract for 100 gallons a day as a trial, though our information does not state that the \$10 figure applies to this small trial contract.

Our own preliminary cost figures have been high because of sad mistakes in the past due to optimistic figuring. Moreover, they are not of recent date. I have had this proposition refigured with certain reasonable assumptions on yields and recoveries indicating that when the 100 gallons per day plant gets into its stride, we should have a goal

cost, including overhead and depreciation, of  $70\frac{1}{2}\text{¢}$  per lb. or \$9.17 a gallon of 13 lbs. Furthermore, if the 2,000 gallons a day figure mentioned in Mr. Kettering's letter was reached on the same basis of figuring, a price of  $61.4\text{¢}$  is a reasonable goal, or \$7.98 per gallon, which you will observe, is within the range of figures indicated by the Standard Oil people.

The foregoing figures are, I believe, the ones on which we should base our calculations, but it is possible, and I think probable, that actual operation over a period would result in a higher yield, better recoveries and more economical operations

—2.—

generally than indicated in the foregoing which is based on 65% yield on Bromide and 75% on Sodium. If we assume an 80% yield on Bromide and 85% yield on Sodium, we reach a goal cost on 2000 gallons a day of  $49\text{¢}$  per lb., or \$6.37 a gallon.

The foregoing figures make it clear that there is nothing inherently impossible in our cost situation unless the Standard Oil people have an entirely new process through Sodium Chloride, which, in the opinion of our department, would have to be something essentially different from the ~~Greenyard~~ Grignard reaction. Our opinion is that the chances of this are slight.

I believe the subject might well be approached in this general manner.—General Motors people are familiar with our general situation, and their knowledge of what we have done and are doing can be made more exact at Saturday's conference.

As the Standard Oil people have come to them with a tentative proposition, General Motors is in a position to suggest to the Standard Oil Company that, in view of the importance of the proposition as a whole and the fact that we have done certain important work on it, they feel a very



frank conference is desirable, at which they would learn what the Oil people think they can do and why they think they can do it, i.e., whether their cost predictions, etc., are predicated on theory and laboratory experiments, or whether they have proceeded through semi-works production so that they know their process is feasible on a works basis.

With this information General Motors will have a clear view of the situation. On one hand will be the Standard Oil proposition as disclosed by them, and on the other the recognized facts in our own case, namely, that in cooperation with them and under our contractual relationship with them, we have spent approximately \$50,000 in research and semi-works operation, have reasonable costs practically assured to us, have a plant actually under construction with a capacity of 100 gallons per day, which presumably will be in operation within six or seven weeks, and stand ready to back up the whole proposition with whatever maybe necessary in the line of research, process development and plant investment.

It seems to me that the picture thus presented will be clear enough to indicate definitely what the next step should be, and from all information this department possesses, we see no reason to fear the direct comparison.

—3—

I have mentioned research work only incidentally. This is bound to be an important factor, but the particular point of research along specific lines can best be determined, I think, after we know more about the claims of the Standard Oil people, provided, of course, the foregoing program, or something akin to it, is adopted.

Mr. Harrington and I will discuss this with you on Saturday morning before the meeting, but I thought it well to present these figures and thoughts in time for you to give

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them some consideration before we enter on detailed discussions with the General Motors representatives.

F. W. PICKARD, GENERAL MANAGER.

*F. W. Pickard*

FWP:JMQ

NOTE: "C-26-D" is written at upper right of first page. Letterhead of E. I. du Pont de Nemours & Co. Sales Department in upper left corner of first page has been overprinted by two large "X's". Italics indicate handwriting.

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4337

GENERAL MOTORS CORPORATION  
224 West 57th Street  
New York, N. Y.

OFFICE OF THE PRESIDENT

January 28, 1924.

Mr. Irene duPont, President,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

My dear Irene:—

I have just had a talk with two or three of the high officials of the Standard Oil Company of New Jersey, covering our relations with them: i.e., their relations with the General Motors Chemical Company, with reference to this tetra ethyl lead picture, dealing with distribution here and abroad and various other phases of the matter that they wanted to discuss. In connection with the situation I would like to pass on to you the following in order that you might consider it and I might profit by your reaction.

There apparently has been more or less discussion between Mr. Kettering and these people in the past month regarding the manufacture of tetra ethyl lead. They say—whether they are right or not I do not know—that six or seven months ago in discussing this particular point with Mr. Kettering and Mr. Midgley they were encouraged to see what they could do in developing a process for making tetra ethyl lead, hoping thereby to discover something that would result in a much lower cost of production. They take the position now that they feel they have a method which is covered by patents which in effect will give, so far as their studies go, a lower cost of production but, naturally, that can only be demonstrated by an actual works development.

Our contract with them provides for distribution throughout practically all the Eastern Seaboard and the contract was made after we had convinced ourselves that

they offered the broadest possible distribution. The contract is exclusive for a period of eighteen months after a certain preparatory time and after that time we have the right to open the territory to whom and on such conditions as we see fit.

With the above atmosphere, which is given you in order to intelligently reach the point I want to make, the Standard Oil people are urging very strongly a deal whereby they want to capitalize the present exclusive contract by exercising the right

—2—

they have to license competitors covering the use of tetra ethyl lead, thereby getting a broader distribution which they claim will be to our interest and in return for that they want the right to manufacture for our account tetra ethyl lead at a price competitive with the duPont Company.

I feel, and have held right along, that in view of the fact that we are in the development stage we should not in any way discuss with these people anything to do with the manufacture of tetra ethyl lead. I question whether it will be good business from our standpoint for them to manufacture tetra ethyl lead and at the same time have such a large slice of the distribution on same. I do not say that I fear we will not get a square deal, but that naturally comes into my mind. Anyway, I do not think it is constructive. I feel that in the final analysis the duPont Company can manufacture the material at the lowest cost plus a reasonable return and that under such a consideration there would only be a manufacturer's profit in it for the Standard Oil Company and that they could employ their capital to equal, if not better, advantage in their own business than in the manufacture of tetra ethyl lead and that our permitting them to get into that manufacture will be a disturbing influence and would throw an uncertainty on the whole situation that would not be constructive. If it develops that these people have a process which, due to the nature of same, it should be cheaper from the standpoint of manufacture, I personally would much rather obtain a license from them, pay for it and get the duPont Company to use it in reducing the cost than I



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would to deal with the Standard Oil Company as a manufacturer.

Will you be good enough to think this matter over and advise me whether you think I am thinking soundly or not and if not, just what reasons you can advance to the contrary.

Very truly yours,

*Alfred P. Sloan, Jr.*  
*B*

A.P.S.Jr./K  
c/c Mr. P.S.duPont

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NOTE: What appears to be "W. F. [illegible]" is written and encircled by hand at top center of first page; line is drawn between those initials and "OFFICE OF THE PRESIDENT" at top left. Check mark in right margin of first page is by hand. Italics indicate handwriting.

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Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
Wilmington, Delaware

EXECUTIVE OFFICES

February 2, 1924.

Mr. Alfred P. Sloan, Jr.  
General Motors Corp.  
224 W. 57th Street,  
New York City.

Dear Mr. Sloan:—

I have talked over your letter of the 28th with Mr. Harrington and find we are all in accord as to the proper course of procedure. I think to put it into effect it would be well for General Motors Co. to write a letter to the Standard Oil Co., something to the effect:

"We have contracted with E.I. du Pont de Nemours & Co. for our estimated requirements of ethyl lead, believing that they are the best equipped company to handle complicated organic chemical problems. We, therefore, suggest that you get in touch with them to see if they are in any wise interested in your proposed method for the manufacture of that compound."

You will recall that in the division of the work on tetra-ethyl-lead we had no part in investigating the chlorine method. Recently, however, we have carried on a few experiments in the laboratory as a matter of information and at no material cost. In the light of our experience with the Bromine/method, we have found that very fair yields can be obtained using the same general precautions and it may well be that the straight chlorine method has not the difficulties which it was formerly supposed existed. Of course,

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anyone starting would naturally suppose the chlorine route was the simplest and cheapest.

Very truly yours,

*Irene du Pont*

IRENEE DU PONT, President

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NOTE: "RECEIVED FEB [illegible] A. P. SLOAN, Jr." is stamped at top of page; illegible initials are written at upper right of page. Check mark above first line is by hand. Italics indicate handwriting.

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4342

GENERAL MOTORS CORPORATION  
224 WEST 57TH STREET  
New York, N Y

OFFICE OF THE PRESIDENT

February 5, 1924.

Mr. Irene duPont, President,  
E. I. DuPont deNemours & Company,  
Wilmington, Delaware.

My dear Irene:—

Dealing with your letter of February 2nd, I note that we are all in accord with what should be done. In view of the nature of my conversation with the Standard Oil people of New Jersey, I think it might be best—and I believe you would agree with me if you had been in the conference—to write them along somewhat different lines but essentially covering the same point.

I have therefore taken the liberty of modifying your suggestion and I will attach hereto copy of letter which I have written them which deals with two or three other points which it was necessary to deal with at this time, all of which I hope will be satisfactory.

Very truly yours,

*Alfred P. Sloan Jr*

*B*

A.P.S.Jr./K

Enc.

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NOTE: "C-26-E" is written in upper right corner of page. "Mr. Irene du Pont" and "W F Harrington" are written in upper left of page and a line is drawn through "W F Harrington". A check mark is drawn through salutation and addressee's name and address. "Very Good [illegible initials]" is written at lower left. Italics indicate handwriting.



4343

February 4, 1924.

Mr. Joseph H. Senior,  
Standard Oil Company of N. J.,  
26 Broadway,  
New York, N. Y.

My dear Mr. Senior:-

Permit me to go back to our conversation of a week ago Saturday, I believe it was, when you and Mr. Moffett were in my office, at which time you raised certain matters of policy dealing with the relations between your good selves and the General Motors Chemical Company, a Subsidiary of ours, with reference to the distribution of tetra ethyl lead. I have considered this very carefully and discussed the matter with my associates and our position in the premises is substantially as follows:-

1. Dealing with the foreign situation. I regret exceedingly that there should have been any question arise as to a change in our attitude toward this question. In discussing the matter with Mr. Kettering, since your call here, he is under the impression that at no time during the negotiations which lead up to the now existing contract, did we knowingly make any commitments that we would necessarily deal with your Company as to the foreign rights of tetra ethyl lead. If there has, and I believe there has been, created in your minds a contrary viewpoint, there is a misunderstanding somewhere which we very much regret. However, I do not think any damage has been done. Our position and attitude, naturally, is to do the best we can for the stockholders of General Motors Corporation, and in view of the statements that Mr. Moffett in particular made the other day, it would appear as if the interest of our stockholders was to do the same thing in the foreign field as we had already determined to do on the Eastern Seaboard: i.e., deal

with your Company. Our only hesitancy in the matter has been lack of definite knowledge and when one is not familiar with the situation it is better perhaps to do nothing. You must appreciate that we are not in the oil business; we know nothing about the commercial situation, and therefore you can not blame us for a desire to go slow and find out as much as we can in the way of atmosphere before we take a definite position. In view of your insistence in the matter, however—if I might put it that way—we will be glad to arrange, without undue delay, to look into the matter definitely and we have no doubt that this study, which you have been good enough to afford us an opportunity to discuss in detail with your people, will lead us to the belief that we might go ahead now and arrange some

—2—

sort of a plan whereby you would represent us in this connection.

2. Dealing with your right to license to sell. This question came up, I believe, in answer to my inquiry as to whether you had or had not made an arrangement with the Gulf Refining Company. As it undoubtedly has been pointed out to you many times, we are anxious to effect as broad a distribution as possible of tetra ethyl lead. It means more to us, as you appreciate, than the specific profit that we may gain from this particular thing. Therefore, anything that would tend to more rapidly and broadly cause such distribution would be of interest and pleasing to us. Furthermore than that, we feel that if the material could be handled by two or perhaps three of the largest distributors in a broad and constructive way that such a development would be a better workout than perhaps having it handled by one distributor and the others more or less in an antagonistic frame of mind. Therefore, if it was, in view of the terms of the contract, your viewpoint to make a deal with the Gulf Re-

fining Company, as the writer personally told Mr. E. C. Bedford, it would appear that it was to our interest and I believe ultimately it will be to yours. However, it is your privilege to elect your own position in view of the contract as it now stands. I might add that our position in limiting the time of the exclusive arrangement was largely dictated by our desire to effect as broad a distribution and not to build up antagonism against a product in the field which might result, by limiting the use of same, to one distributor. Therefore, it would logically appear from this viewpoint that if it was your policy at this time to definitely determine to license one or two other large distributors and if you cared to raise the point, we might be willing to consider a modification of the terms of the now existing contract so far as the exclusive part of same is concerned. In any event, we would be glad to discuss this matter with you if you should care to raise the point.

3. As to your manufacturing tetra ethyl lead for our account. As I told you in our conference, we feel that the rapid developments of the plant that we have built for the manufacture of tetra ethyl lead and the fact that the whole picture is more or less in the development stage, makes it desirable to refrain from discussing this situation at the present time. You must appreciate, as I have no doubt you do, that the present price of tetra ethyl lead has nothing to do with the ultimate price and the ultimate price will be based upon the lowest possible cost that can be developed through large production and effective manufacturing means plus a reasonable return on the capital employed. In other words, a manufacturer's profit. What this will ultimately be we can not say at this time for reasons already explained, but we have every reason to

—3—

believe that we shall be able to ultimately reach a cost that

will be entirely competitive, but until our plans, etc. are fully matured, we can not say just what this will be. As I understand the question further—perhaps I am wrong in the impression—you are connecting your willingness to license other large distributors in the exclusive territory now controlled by you, permitting them to deal with tetra ethyl lead, with our willingness to deal with you as a manufacturer of said tetra ethyl lead. So far as this point is concerned, our position is, for reasons herein stated, that we prefer to live strictly up to the terms of the contract as now existing, you to elect your own position as to whom you will deal with. We shall at all times, however, be glad to discuss with you the relative value of your process versus ours and after such analysis if it appears that your process has value, we shall be glad, in co-operation with you, to work out some plan which will be constructive and preserve all the equities in the case.

Mr. C. F. Kettering will be in New York some time the latter part of this week and I have asked him to see you in connection with various operating matters connected with the workout of the present agreement.

Very truly yours,

*Alfred P. Sloan Jr*  
B

A.P.S. Jr./W

c/c Mr. C. F. Kettering  
Thomas Midgley, Jr.  
Irene duPont ✓  
P.S. duPont

NOTE: "FILE COPY" is printed across each page. Check mark after "Irene duPont" on third page is by hand. Italics indicate handwriting.



4347

GENERAL MOTORS CORPORATION

OFFICE OF THE  
FINANCE COMMITTEE

January 12, 1924.

Irene du Pont, President,  
Wilmington, Dela.

Dear Irene:

Confirming our discussion of this afternoon this is to request that the DuPont Co. proceed immediately to increase its capacity of tetra ethel lead by adding two units of six or eight hydrolizers each which it is estimated will give you a total capacity of a minimum of 7800 lbs. per working day. In consideration of this our company will agree to ~~xxxxxxx~~ modify its present contract with you to provide for the purchase of a total of 1,100,000 lbs. from Feb. 1st, 1924 to be supplied by you at the rate of at least

2600 lbs. per working day from Feb. 1st to July 1st, 1924

5200 " " " July 1st to Aug. 15th, 1924

7800 " " " Aug. 15th to date of com-

pletion of delivery of the 1,100,000 lbs. herein mentioned.

Yours truly,

President.

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NOTE: - Row of x's in second sentence is typed over "purchase".

4348

January 14, 1924.

MR. W. F. HARRINGTON:—

Attached is the original copy of Mr. Sloan's letter of Jan. 12th ordering from the du Pont Company 1,100,000 lbs. tetra ethyl lead in lieu of amount specified in our present contract. This order is given in consideration of our undertaking to build two additional units of about 200 gallons per day each. It is essential that we treat this undertaking like a war order so far as making speed and producing the output, not only in order to fulfill the terms of the contract as to time but because every day saved means one day advantage over possible competition and bringing one day nearer the huge production which I think will come about.

IRÉNÉE DU PONT, President

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NOTE: "C-15" is written in upper right corner. "FILE COPY" is printed across page.

4349

Wilmington, Del., January 14, 1924

EXECUTIVE COMMITTEE,  
BUILDING.

Gentlemen:—

This is simply to report that I have orally assented to an arrangement with the General Motors under which we are to build two additional tetra-ethyl-lead units of 200 gallons per day each, and the General Motors in consideration thereof have modified the quantity in our present contract increasing it to 1,100,000 lbs., price to remain as today—\$2.00 per lb.

Mr. Harrington will shortly bring in a rush appropriation for this work which must be done as quickly as possible.

Very truly yours,

IRENEE DU PONT, Chairman.

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NOTE: At upper left is written "W.C."; at upper right is stamped "Executive Committee Sec'ys No. 66"; at lower left is written "GMC 1616"; stamped across the bottom of the page is "Return to Room 9059" below which is stamped "Return to Executive Committee Room 9069"; an illegible notation is written above the text of the letter followed by the figures "1/15".

4350

Letterhead of  
E I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

January 18, 1924.

Mr. Alfred P. Sloan, Jr. President,  
General Motors Corporation,  
224 W. 57th St.  
New York City.

Dear Mr. Sloan:—

Am advised that we have covered purchase of sodium bromide for our estimated requirements to produce the ethyl lead as per our modification of the contract arrived at Saturday last.

It seemed to me essential that as a safeguard for the future supply and to insure a proper price we should have our Development Department make a confidential study of sources of bromine and cost, of producing sodium bromide. They are proceeding to do this and I think can do it in a way which will not excite producers.

Very truly yours,

IRÉNÉE DU PONT, President  
*Irénée du Pont*

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NOTE: To right of address is stamped "Received—A. P. Sloan, Jr." (date illegible); the word "contract" is underlined in pencil; italics indicate handwriting.



4351

Letterhead of  
GENERAL MOTORS RESEARCH CORPORATION  
DAYTON, OHIO.

Sept. 8, 1924.

Mr. A.P. Sloan, Jr.,  
General Motors Corporation,  
New York City.

My dear Alfred:

We went over to Pomeroy last week to investigate the possibilities of securing bromine and had a very profitable trip so far as getting a real understanding of the bromine situation. Our boys, here at the Laboratory, are devoting their entire time to studying methods of extracting bromine from low percentage brine and we feel that, once this problem is out of the road, we are in shape to go ahead in very good style with the Ethyl Gasoline Corp.

The duPonts are still falling down in their deliveries of lead and I think the new method of handling this proposition is going to work out very satisfactorily.

I thought you would be interested in knowing just what we were doing along this line because I am sure if the bromine problem is solved that the Ethyl Gasoline proposition can go ahead in good shape.

I do not think I can come down this week. Midge is going down and inasmuch as he has to go over to duPonts he can drop in and report progress to you.

Yours very truly,

*Ket.*

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NOTE: Across top is written "Gen. Mot. Chemical Products—Suppt. Materials—Antiknock SK"; beneath the letterhead is an illegible initial followed by a stamp, "Received Sept. 10, 1924—A. P. Sloan, Jr."; beneath the signature is a circular scrawl; italics indicate handwriting.

2071

4352

October 10, 1924

Inspecteur General Militaire Patart,  
Directeur du Service des Poudres,  
Ministere de la Guerre,  
Paris, France

Dear General Patart:

This letter will introduce to you Mr. F. C. Kettering a Vice President of the General Motors Corporation, which Company as you probably know is closely affiliated with our Company. Mr. Kettering is very much interested in the bromine supply and in fact the study which the du Pont Company has been making of bromine supply in connection with the possible operation of the Tunis plant has been on account of our association with the General Motors Corporation. Inasmuch as Mr. Kettering is about to leave for a business trip to Europe and as he is very much interested in the bromine subject, it is quite probable that he may call upon you for which reason I have given him this letter of introduction to you. In the event that Mr. Kettering should call on you, our Company and myself would appreciate very much anything you may be able to do for him.

Very truly yours,

FIN SPARRE  
Director

FS:N

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NOTE: At lower right is written "GMC-698"; diagonally across page is stamped "File copy"; signature "Fin Sparre" is stamped.

4353

December 27, 1924.

Mr. Ireneé duPont, President,  
E. I. DuPont deNemours & Company,  
Wilmington, Delaware.

My dear Ireneé:—

After the meeting of the Ethyl Gasoline Corporation the other day we started to outline a letter to your Company regarding the development of the Bromine Plant and it occurred to me that it was really understood at the meeting that you were to submit us a proposition so I will do nothing about it pending hearing from you which letter I presume, as a matter of orderly procedure, should be sent to Ethyl Gasoline Corporation rather than to myself.

As I understand the proposition, we really appropriated \$150,000. and it was understood that when that was expended we were to have another look at the picture, recognizing that it would probably cost more. You said something to me personally about a fee of \$20,000. for doing the work which, so far as I am concerned, is perfectly satisfactory.

I write the above so there will be no misunderstanding and I might add that so far as I can see there would be no harm to discuss the matter with Mr. Howard and Mr. Kettering on Monday because, as I have pointed out to you several times in this whole situation, we have got to work in harmony with all parties that are interested in the matter.

Very truly yours,

APSJr./K

2073

4354

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

EXECUTIVE OFFICES

December 30, 1924.

Mr. Alfred P. Sloan, Jr.  
224 W. 57th Street,  
New York City.

Dear Alfred:—

✓  
Thank you for your letter of the 27th. It is immaterial to me who writes the document and consequently I have outlined it as per attached copy.

Incidentally, on the strength of the oral discussion with you and the other members of the Board last Tuesday, I immediately started men to work on determining some of the data which must be used in the construction of the proposed plant. Yesterday we shipped down equipment by automobile to a point on the Atlantic Coast below Rehoboth with instructions to try a test in a temporary sump in an endeavor to find out data on the flotation of anilin tribromide. The cost of this work was included in my requirement as to what a commission should be; i.e. \$20,000, and it was my intention to so charge it.

I think we are all open to criticism on being rather loose in the making of arrangements as between Ethyl Gas, General Motors, Standard Oil and du Pont. What would you think of the general proposition on miscellaneous work done by any of the three partners for account of Ethyl Gas to charge Ethyl Gas actual cost of materials and labor plus



actual cost of supervision with an allowance of 25% of the latter only to cover uncharged overhead. This not in connection with the bromine plant but as a general proposition. For instance, we have

—2—

from time to time done work in our London office and are now undertaking negotiations there with lengthy cables to and fro. This may appear to be a trifling matter and if we never get paid I really don't think it is at all serious. However, I think it would make for better feeling among the partners if we were to come out on the square and say the combination must pay the petty accounts run up by its members as above.

Before suggesting this to Ket would like to get your reaction on it.

Sincerely yours,

IRÉNÉE DU PONT, President

*Irene du Pont.*

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NOTE: Beneath date line is stamped "Received Dec. 31, 1924—A. P. Sloan, Jr."; the date "27th" in the first line is checked by hand; italics indicate handwriting.

4356

COPY

ETHYL GASOLINE CORPORATION

NEW YORK, April 8, 1925

Mr. Irene du Pont,  
E. I. duPont de Nemours & Co.  
Wilmington, Del.

Dear Mr. du Pont:—

I have considered your letter of April 6th.

It is quite apparent that, in view of your uncertainty as to whether you will be able to operate your ethyl chloride plant, it would be wise to be looking around for additional sources of bromine. ✓

I do not quite see why we should attempt to divide the field, as you suggest, in this matter. Rather, it would seem to me that we should cooperate and that you should be quite at liberty to fully investigate all of the possible sources of bromine which we know of, as well as to cover any additional sources which your experts may run down. I quite agree with you in thinking that this work should be undertaken immediately, that is, assuming that you really feel there is some prospect of your being required to continue the operation of your bromine plant as you say.

As to the contract clause covering the bromine plant operation, I have no doubt at all that the Directors necessarily would approve a waiver of this clause if you should present to them that you have no prospect of getting your ethyl chloride plant again in operation. There would be no other course for us, since we must have as much lead as we can get.

My understanding is, however, that you would not expect to be able to turn out from the bromine plant, for some

4357

time at least, more than 700 gal. per day, which would be considerably short of your minimum deliveries under the contract. This, of course, would bring up the question of the penalty under the contract, and all of these things, I think, would have to be considered at one time by the Board in connection with the proposals which you make. The officers of the Company could not on their own authority, undertake to dispose of this complicated matter.

Summarizing, therefore, my conclusion is that we ought to pitch in with you at the present time and try to find all the bromine that either one of us can get hold of, with the assurance that some equitable method of working out its development will be arrived at when and if you decide that it is required.

Yours very truly,

(S) Thomas Midgley, Jr.

Vice President and General Mgr.

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NOTE: At lower right is written "GMC-693a"; check mark is by hand.

4358

E. I. DU PONT DE NEMOURS & COMPANY  
(Incorporated)

COPIES TO — DR. FIN SPARRE  
MR. W. F. HARRINGTON

April 9, 1925

Mr. THOMAS MIDGLEY, JR.  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

Dear Mr. Midgley:

Referring to yours of the 8th, my object in suggesting a division of the field of possible bromine supplies was in order to definitely fix the responsibility for the development of any particular source on one company or the other. Manifestly, it would not be to our interests to examine into all the possible sources of bromine, arriving at a conclusion that one particular site was the best, and then have it developed by and for the benefit solely of the Ethyl Gasoline Corp. Similarly, it would be unfair for you to develop the possible sources and have us pick out the best after you had spent money proving it.

Harrington tells me that he does not expect to be able to run the Ethyl Chloride plant at its rated capacity at an early date. He is running one digester and proposes to continue to do so for a number of days still before gradually increasing the operation; this because he is unwilling to jeopardize his men and the whole success of the undertaking by hurrying the manufacture, thereby increasing the hazard of a repetition of our previous trouble.

He is writing you on this subject in connection with his reply to Mr. Howard's letter in relation to adjustment for



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the reduction in output beginning January 20th, made at your request about which we have been corresponding.

Very truly yours,

IRÉNÉE DU PONT, President

*Irene du Pont*

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NOTE: Following name "Fin Sparre" at upper right appears a check mark; at upper right appear three stamps: "Referred to F. S. MacGregor, for attention", "Noted R&M", and "Received Apr. 10, 1925. Development"; a diagonal line is drawn through the address; at lower right is written "GMC-643"; italics indicate handwriting.

4360

WESTERN UNION TELEGRAM

114FY FFY 61

GM DAYTON OHIO 949A JUNE 5 1924

A P SLOAN 99

GENERAL MOTORS CORPN NEW YORK NY  
TO INFORM YOU ON ETHYL GAS SITUATION  
STOP ORGANIZATION HERE IN EXCELLENT  
SHAPE STOP WE ARE UNABLE TO GET  
SUFFICIENT LEAD FROM THE DU PONT  
COMPANY TO MEET OUR REQUIREMENTS  
STOP WHOLE PROGRAM IS BEING PRE-  
JUDICED ON THIS ACCOUNT STOP CAN YOU  
GET IN TOUCH WITH ME IF THEY ARE  
UNABLE TO MEET SCHEDULE WE WILL  
CHANGE OUR PRGRAM RELATIVE TO  
ETHYLIZER

C F KETTERING

1112A

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NOTE: At upper right is stamped "Received June 5, 1924—A. P. Sloan, Jr."; above the date line in a column are written the figures "200", "400" and "600", each followed by an illegible notation.

4361

## GENERAL MOTORS CORPORATION

## INTER-ORGANIZATION LETTERS ONLY

## SUBJECT

New York, June 5, 1924.

FOR ATTENTION OF Mr. Alfred P. Sloan, Jr.

I have had Ireneé duPont on the phone and he reports as follows in regard to tetra-ethyl lead:

Midgely will visit Harrington tomorrow and receive latest information specifically as follows:

The duPont contract called for delivery of 200 gallons per day, February to July, 1924. The actual schedules of deliveries to date are —

	<u>Delivered</u>	<u>Contract</u>	<u>Shortage</u>
February	1588	5600	4012
March	2347	6200	3853
April	4627	6000	1373
May-June 5th	6891	7200	309
		<u>25000</u>	<u>9547</u>

During the first five days of June 400 gallons per day were delivered, but part of this was evidently manufactured in May. During June Harrington expects to ship his 200 gallons per day. The contract calls for following deliveries beyond that:

	<u>Gallons per day</u>
July 1 — August 15	400
August 15 to end of contract	600

Harrington expects to meet these schedules, though Kettering wants 700 gallons per day immediately.

Only two serious troubles have been experienced recently, accounting for some disappointment in shipments:—  
First, receipt of a bad lot of sodium, which results in making

2081

bad alloy that works very slowly. This sodium was sufficiently bad to warrant its return to makers. Second, the new grinding mill for alloy did not work well at first, but it is now all right. It seems unlikely that either of these delays will be of moment in the future, although, of course, minor troubles may continue to crop up. Altogether the situation seems hopeful.

*P. S. du Pont*  
Chairman.

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NOTE: At upper right is stamped "Received June 6, 1924  
—A. P. Sloan, Jr."; italics indicate handwriting.



Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE

43634

EXECUTIVE OFFICES

June 26, 1924.

Mr. Alfred P. Sloan, Jr.  
General Motors Corporation,  
224 W. 57th Street,  
New York City.

Dear Alfred:—

We had a very interesting interview with Mr. Howard, Dr. John and Dr. Peck yesterday and went over the tetra-ethyl-lead plant with them. In view of my impression received orally from you that the Standard Oil of New Jersey are substantially your partners in the tetra-ethyl-lead distributing game, I was entirely frank in talking every phase of the question.

I feel sure from their laboratory results, confirmed by our laboratory, that the ethyl chloride method will be found cheaper both as to construction cost and operating cost than the ethyl bromide method and in any case additional capacity must be by the former owing to the very definite shortage in the amount of bromine available at reasonable figures.

Mr. Howard was very keen to start a 100-gallon plant which I understand would be by your joint company and located at their plant, Bayway. My first thought was, and still is, that quicker ultimate production progress would be made if that unit were installed at the Dye Works.

I appreciate that there would be some advantage in having an independent plant operated by your joint organi-

zation as a check on prices charged by the du Pont Co. and also to obtain such advantage

—2—

as there may be in the enthusiasm of the Standard Oil men to put across their own "baby". I am sure from the figures submitted that costs on a basis of the chlorine method will form no indication of what a proper price via the bromine method should be and that the present plant will doubtless have to operate all of this year and quite likely all of next year.

It is essential that work be started on a chlorine method plant at once if forecasts of the probable needs of tetra-ethyl-lead are even reasonably borne out and if you are convinced that a check on prices by an independent plant is desirable and you should go ahead at once with the hundred-gallon unit at Bayway, you should give us a contract for enough additional output so that we also could build at once a hundred-gallon plant by the chlorine method of Deepwater and add to it, as rapidly as experience determined desirable, 900 gallons per day of additional capacity.

Very truly yours,

IRÉNÉE DU PONT, President  
*Irénée du Pont.*

NOTE: Illegible initials are written in upper right corner of first page. Scoring in last paragraph and line in left margin are by hand. Italics indicate handwriting.

4365

GENERAL MOTORS CORPORATION  
NEW YORK CITY

June 27, 1924.

Mr. Irene du Pont, President,  
E. I. du Pont de Nemours & Company.  
Wilmington, Delaware.

My dear Irene:—

I have your letter of June 26th confirming our telephone conversation.

As I told you over the telephone, I have given this thing a lot of thought and I would be most happy and entirely satisfied to leave the matter entirely in your hands and the only thought that I have given in any other direction is simply to give due consideration to the psychological side and the opinion of our partners, the Standard Oil Company of N. J. in the enterprise. Naturally, they have their viewpoint. They are contributing in a large way to the commercial side of the tetra-ethyl lead development and for that reason I am bound to listen to what they have to say.

I feel, therefore, that what we ought to do is substantially as follows and I wrote you somewhat along these lines yesterday.

1. We should immediately lay down a 1,000 gallon a day tetra-ethyl lead plan under your supervision at deep water, and make some sort of a deal concerning which I wrote you yesterday that is satisfactory to all parties—and there will be no difficulty as to this—which will serve to protect the capital you put into the enterprise and give you a reasonable return on the capital employed.

2. We should then give thought to the development of an additional plant, in my judgment located elsewhere but under your supervision, for something like 500 gallons. Perhaps by the time we get into it we might think it desirable to make it 1,000 gallons.

3. For psychological reasons we should permit the Standard Oil Company of N. J. to expend \$35,000 or \$40,000 of their own money to experiment with the 100 gallon a day outfit in one of their plants, I believe in Bayway, in a building which they could use temporarily for the purpose. This will serve to satisfy them from the psychological standpoint and it is certain that it will be impossible to operate such an experimental plant successfully when the larger units are running, but it will give them a means to work out their viewpoint which certainly can do us no damage when we approach it from the bigger way.

4. Any further thought of developing any real production other than under the auspices of the du Pont Company will be deferred until some later time.

I really feel that the weight of the argument in favor of a geographical separation of units is absolutely essential because you must not fail to appreciate, assuming that no other antiknock material is developed in the meantime and that we have the field to ourselves

—2—

that in the event of universal distribution which ought to come fairly promptly with the advent of the high compression engine, a contingency would arise whereby the whole automotive industry would be dependent upon tetra-ethyl lead, and irrespective of what any individual opinion might be as to the propriety of putting all our eggs in one basket, I feel sure that none of us would want to carry such a hazard



because it is not inconceivable that a fire, a strike or some other catastrophe that could not be forecast might put the plant out of business for even a short time and if the supply at that time is not enough to carry over the interval, every motor car in the United States would be out of business. All this, of course, is full of assumptions, nevertheless, if we are successful in what we are attempting to do it is a contingency that we must recognize.

So far as I am concerned I am absolutely confident that with the experimental work behind us and a suitable cost established and a routine definitely established as well, that there is no reason at all why you should not be able to make a lower price than anyone else and at the same time make a larger return on the capital employed. Mr. Howard feels that way too.

Will you kindly advise me if this entirely satisfactory, at east for a temporary argument.

Very truly yours,

(S) Alfred P. Sloan, Jr.

APAJr./K

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NOTE: At lower right of both pages is written "GMC 1622A"; at upper right of first page is written "Or. Chem. Depts. General File" beneath which appears an illegible initial.

4368

E. I. DU PONT DE NEMOURS & COMPANY

(Incorporated)

~~MR. W. F. HARRINGTON~~

June 30, 1924.

Attached is copy of Mr. Sloan's letter of the 27th.

To my mind there is no question that if we wish to make the quickest progress we will have to make them a proposition. I think the one less likely to create friction and insure us against loss by reason of further capital expenditures would be an extension of our present contract to produce tetra-ethyl-lead at \$2 per lb.

I understand from our conversation over the phone you will work this up at the earliest moment possible and in the meantime note that no time is being lost on accumulating data to guide us in the design of the ethyl chloride plant.

*Irénée Du Pont*

IRÉNÉE DU PONT, President

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NOTE: At lower right is written "GMC 1622"; at upper right is written "Or. Chem. Dept's General File" beneath which appears an illegible initial; italics indicate handwriting.

4369

~~COPY TO MR. W. F. HARRINGTON~~

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

June 30, 1924

Mr. Alfred P. Sloan, Jr. Present,  
General Motors Corporation,  
224 W. 57th Street,  
New York City.

Dear Mr. Sloan:—

I have your letter of the 27th and appreciate the difficulty of your formulating any sort of a deal which would take care of General Motors interests and our interests. I believe from my more or less neutral position that it would be better if I submit you a proposition. I wish to do this in a way which will put every incentive on the boys at the Dye Works to make the best possible showing in output and costs. A cost plus contract or return on the investment contract does not accomplish that result but rather, if anything, puts a premium on inefficiency. I will not be a party to take such an uneconomic step. On the other hand, I think it seems clear that the present bromine plant must be run for the balance of the year and probably through next year. So far it has yielded the du Pont Co. no profit and has amortized only \$14,000 out of \$700,000 or \$800,000 capital expenditure but I am in no wise discouraged as to the outcome and feel sure that we can get the cost down in the course of a few months.

Am, therefore, asking Mr. Harrington to make up a computation of how long he would have to run the bromine method

2089

plant at his estimated production in order to accumulate sufficient profit to wipe out the capital cost of that plant which will shortly be obsolete and adequately amortize a plant by the chlorine method. This will take him probably a few days but no time is being wasted here as they are proceeding with research required to guide us in the design of the chlorine method plant.

Very truly yours,

IRÉNÉE DU PONT, President

*I. du P.*

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NOTE: The typed words "Copy to Mr. W. F. Harrington" which appear at the top of the first page are scratched out by pencil; above the text of the letter on the first page is stamped (upside down) "Noted W. F. H." (date illegible except for year 1924); at lower right on both pages is written "GMC 979"; italics indicate handwriting.



4371

Letterhead of  
GENERAL MOTORS CORPORATION  
NEW YORK, N. Y.

Mr. Ireneé duPont, President,  
E. I. duPont deNemours & Company,  
Wilmington, Delaware.

July 8, 1924.

My dear Mr. duPont:—

Replying to your letter of June 28th regarding mine of the 26th with reference to development of tetra-ethyl lead and also referring to another letter I have written you on the subject would state that Mr. Kettering has been here for two or three days and we have discussed the matter at some length. Mr. Kettering is arranging to go down to Wilmington and spend part of tomorrow with you and he can tell you verbally what our ideas are. From what he says you will learn that we haven't any fixed ideas at all. All we want to do is to do the thing that is most constructive, all things considered.

As I told you in my other letter, I dislike a cost-plus arrangement more than anyone else I believe or certainly as much as any one else possibly could dislike it but, as I also said before, I did not see how we could handle it any differently where you have so many uncertainties as we have in this case especially dealing as we are now with a process covering which we at the present time, I presume, know comparatively little so far as the actual cost of operating

is concerned. It might be profitable to get the best cost possible and determine the profit with some regard to return on capital but make it a fixed price. Whatever is satisfactory to you will be satisfactory to me.

There is only one thing that I want to point out to you that I do feel very keenly on that is this:— That we have injected into the picture, as you know, the Standard Oil Company of N.J.. Naturally, they are looking at the situation a little differently so far as the cost of tetra-ethyl lead is concerned than we are. I am anxious to preserve the psychology of the situation so far as possible and for that reason I believe it would be much more satisfactory if the amortization of the plant or, put it in another way, the risk to your capital, be provided by a specific guarantee on the part of our new organization and guaranteed, if you wish, by the Standard Oil Company of

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N.J. and ourselves and let us deal with that as we see fit in our own way rather than to have the amortization injected into the cost of the material which makes the material appear a lot higher than it otherwise would. I will admit that it is the same way in the end but it gives an entirely different aspect to the picture. In other words, what I think should be done from the psychological standpoint would be, first, to make a price on tetra-ethyl lead which is safe to the duPont Company and reflect a reasonable return on the capital employed; second, include in the cost a depreciation on the plant and third, to have us guarantee the duPont Company the return on their capital if at any time we discontinue the purchase of tetra-ethyl lead up to the time that the plant had been written off through depreciation. Some such plan as this I think should be satisfactory to you and I believe will be satisfactory to the Standard Oil

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Company of N.J. and please remember that it is satisfactory  
to me personally whatever it may be.

Very truly yours,

*Alfred P. Sloan Jr*  
B

APSJr./K

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NOTE: Through the address appears a large check mark;  
at lower right on both pages is written "GMC 980"; italics  
indicate handwriting.

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2093

4374

Extract from Minutes of Meeting of the Executive Committee of General Motors Corporation duly held on the 27th day of February, 1924.

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Present:

Mr. Alfred P. Sloan, Jr., in the Chair,  
Mr. P. S. du Pont,  
Mr. J. J. Raskob.

\*\*\*\*\*

TETRAETHYLLEAD (ETHEL GAS)

The President brought up for general discussion the question of our future policy in the development and marketing of Tetraethyllead.

The Committee was advised that in view of the enthusiastic reception of this material by the Oil Companies, it might be possible to work out a plan whereby a company could be formed to control our patents and the distribution of the material which would be jointly controlled by the large oil companies and ourselves.

It was also pointed out that a limiting factor in the broad development of this market at present is the small available supply of bromine, which is now used in the manufacture of Tetraethyllead, and while we understand it may be possible to use chlorine in place of bromine, the Committee did not have sufficient information to judge whether the use of chlorine would make an equally satisfactory product.

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It was the general feeling that it would be unfortunate to take any steps in the development of a plan along the broad lines discussed until we are sure that we can manu-



4375

facture in the quantities required a product that will be reasonably satisfactory.

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A true copy.

(Signed) *George E. Brooks*  
Secretary

NOTE: Italics indicate handwriting.

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2095

4376

New York.

July 25, 1924.

Mr. C. F. Kettering, President,  
General Motors Research Corporation,  
Dayton, Ohio.

My dear Ket:—

I greatly regret that you have not been feeling very well<sup>now</sup> and that you were unable to attend the meeting of the Technical Committee in Oshawa last week. We had a splendid meeting not only so far as the meeting itself went but the boys stayed over Saturday and some of them Sunday and some went fishing and others played golf and that helps a lot in bringing men who are thinking in the same direction, more closely together. I can't help but feel, considering the magnitude of our picture and all that sort of thing, that this co-operation in engineering is working out just splendidly. We must be patient, but I am sure that as time goes on we are going to be fully repaid for the way we have handled it as compared with a more military style which I do not think would have ever put us anywhere.

I hope you are feeling better and are on the job again. As a matter of fact, I haven't been feeling very keen myself during the past two or three weeks and am going to take next week off. Therefore, I will not be in Detroit until the week following. If you could arrange to be there a day or so the week following it will be very nice. My present plan is to leave New York on August 4th, going right through to Lansing. I want to look over the new line and get into that picture a little more in detail.

The object of this letter is simply to advise you regarding the tetra-ethyl lead situation and I will enumerate the points as follows:—

2096

1. At the Operations meeting last week in Detroit I brought the matter up and gave the boys a little picture of what we were doing with Standard Oil group and also discussed the physiological uncertainty as well as the deposit of the material. These men must necessarily deal with this thing sooner or later and it is much better for them to know all there is to it rather than feel that through lack of knowledge the thing isn't being constructively developed. Following this we discussed the matter at length in Oshawa. I am speaking now of the deposit, and it was agreed that Midgley would go right to that and try to seek, irrespective of cost, definite information as to just what the field experience has been. As I size up the situation, we have been investigating things that have been called to our attention.

—2—

but we have not perhaps gone as far as we might have in trying to develop information of our own. I think it is most important that a big thing like this where so much money is involved, that we know all about it.

2. We had a conference here in my office with the Standard Oil group Tuesday, at which time Midgley was present and we covered the following points:—

(a) Our partners brought up as to whether we were entitled to a specific royalty on tetra-ethyl lead consumed in foreign countries. They started to argue that this was a different picture than domestic. It did not take us long, however, to show them that there was no reason for this segregation and with very little argument they agreed that the royalty would apply on tetra-ethyl lead wherever sold and under any conditions.

(b) There was quite a discussion regarding the desirability of taking in additional partners.—the point I

raised in view of Col. Stewart's and Mr. Mellon's conferences with me since the last meeting. It was again agreed that we would not do anything about this at the present time. Counsel for Standard Oil strenuously objected to bringing other Standard Oil Companies into a common corporation.

(c) The next point was a decision as to the name. We can't incorporate the company until we have a name. It was argued out at length. We finally arrived at the name—Ethyl Gasoline Company. I do not know whether that will please you or not but it seemed to be a compromise and although many names were discussed this seemed to suit everybody the best. Mr. Howard accepted it although he, like myself, felt that we ought to inject into the name some idea that we were working on standards rather than that it was a commercial proposition. This, however, did not seem to have the support of the group.

(d) It was agreed that Mr. Midgley as Operating Vice President should have an important assistant to deal with commercial matters and look after things in his absence and that the interest of everybody would be better conserved by Mr. Midgley devoting most of his time to the technical side of it, both manufacturing, etc.—that a great deal of constructive work had to be done as the thing developed from that standpoint. Everybody agreed that it was most

—3—

desirable and highly essential and I suggested that we should have a man who knew something about the oil industry. They nominated a Mr. Maxwell. Mr. Midgley met Mr. Maxwell the following day; found a number of points of common interest, and seemed to be very happy with Mr. Maxwell as being the right man to work with him on the proposition.



(e) It was agreed that offices should be established in the downtown section rather than uptown. It was absolutely immaterial to Midgley and to me, therefore we accepted this suggestion.

(f) It was agreed that an appraisal would be effected of the physical property that we were turning into the proposed corporation for which we would take stock and it was agreed that Standard Oil would send a man to Dayton to appraise the value of this. That has been arranged for.

(g) There was also a discussion regarding the proposed licensing agreement and it was agreed that we would continue the present basis of distribution until the cost of tetra-ethyl lead had been reduced to something like \$1.00 a lb. In other words, we would not permit the distributor to have anything specifically out of the premium until that point was reached.

(h) It was agreed also that we would get together as soon as the duPonts were ready to discuss the matter with us and decide the basis on which the 1,000 gallons a day chlorine plant would be operated. We had some discussion regarding the matter of charging off the plant but nothing definite was understood. It was agreed we would go over it again when the duPont Company had something definite.

(i) There was quite a discussion regarding the amount of tetra-ethyl lead we were now getting and Mr. Howard expressed his opinion as being very sympathetic toward the trouble that duPont was experiencing. Mr. Harrington was contacted with over the telephone and stated that he hoped to get 350 gallons a day this week; that he was having one mechanical trouble after another but felt that he must necessarily be getting along toward the end

of that. Further, that substantial progress was being made in the studies of the best plan to use the chlorine process and that the time taken to do this was well worth while and that we felt, all matters would be fairly well defined not later than August 1st.

—4—

(j) It was agreed that as soon as possible after the 1,000 gallon plant was started that we ought to provide another 500 gallon plant in the middle west. We then discussed the possibility of making a thousand gallons as the extra cost perhaps would not be particularly great. It was sort of felt that that might be the best proposition. It was agreed that there would be nothing constructive in trying to analyze that at the moment as it could be best determined about October 1st at the time we would have more information available.

The above will just give you a brief summary of what the picture developed into so that you will be informed as to each step that is being taken.

With best regards, I remain,

Very truly yours,

APSJr./K

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NOTE: Across the top of the first page is written "Ethyl Gasoline Co.—Org.—Org. 3K"; in right margin opposite third paragraph on first page is written "8/11", subsequently changed to "8/18", and finally scratched out; beneath this notation appears a large check mark and a routing stamp containing in part the initials "A.P.S.", "L.R.B.", "A.T.E.", and "W.F.A."; check marks appear in the space provided in this routing stamp opposite the initials "A.P.S." and "A.T.E."

4381

Extract from minutes of meeting of the  
Finance Committee of General Motors  
Corporation duly held on the twenty-  
seventh day of August, 1924.

\* \* \* \* \*

PRESENT: J. J. Raskob, Chairman,  
Donaldson Brown,  
Irene duPont,  
P. S. duPont,  
Seward Prosser,  
A. P. Sloan, Jr.,

\* \* \* \* \*

ETHYL GASOLINE COMPANY:

Report was received from Vice President Donaldson Brown dated August 25, 1924 (#1078) advising of the formation of a company known as Ethyl Gasoline Company, for the purpose of taking over the business of General Motors Chemical Company, which company has been merchandising tetra ethyl lead, an anti-knock compound developed by General Motors Research Corporation. The Ethyl Gasoline Company has an authorized capital of \$5,000,000., all common stock of \$100. par value and has two stockholders, viz., Standard Oil Company of New Jersey and General Motors Corporation, each having a 50% interest. The Board of Directors consists of ten members, each stockholder having equal representation on the Board. As a consideration for the patent applications assigned by General Motors Chemical Company and agreement covering the exclusive right to use any future patents issued or knowledge obtained in respect to the manufacture and use of tetra ethyl lead, General Motors Chemical Company will

receive from Ethyl Gasoline Company, as a royalty, 25% of the amount by which the net earnings of Ethyl Gasoline

—2—

Company derived from the sale of tetra ethyl lead shall exceed 22½% of the capital employed. Capital required for the conduct of business by Ethyl Gasoline Company will be derived from the issuance and sale of its capital stock, at par, the Standard Oil Company of New Jersey and General Motors Corporation subscribing equally to such amounts as it may be necessary to issue from time to time. The amount of capital required will of course depend upon the magnitude of operations and for some time to come the capital requirements will not likely exceed \$3,000,000. due to the restricted supply of essential materials.

After discussion, it was moved and unanimously carried that the aforementioned report be accepted and ordered filed; that the plan of formation and organization of the Ethyl Gasoline Company be approved; and that the proper officers of this Corporation be authorized to subscribe and pay for our pro rata share of common stock of Ethyl Gasoline Company up to an aggregate not exceeding \$1,500,000. representing at all times a one-half interest in the common stock of said company.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks.*  
Secretary

NOTE: Italics indicate handwriting.



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Exhibit I

AGREEMENT, made this 1st day of August, 1924, between GENERAL MOTORS CORPORATION, a corporation of Delaware, hereinafter called "GENERAL MOTORS", first party, and STANDARD OIL COMPANY, a corporation of New Jersey, hereinafter referred to as the "STANDARD COMPANY", second party, WITNESSETH:

WHEREAS, GENERAL MOTORS, directly and through its subsidiaries, is engaged in the manufacture and sale of automobiles and parts thereof in the United States of America and abroad, and has heretofore conducted research and experimental work for the purpose of increasing the efficiency of gasoline engines, and expects to continue such work; and is the owner of certain inventions relating to improvements in anti-knock agents for motor fuels, and is presently engaged through one of its subsidiaries, General Motors Chemical Company, in the exploitation of said inventions, and has entered into contracts with various gasoline distributors, including, among others, the STANDARD COMPANY and the Standard Oil Company of Louisiana, granting to said distributors for a limited time the exclusive right to use said inventions within the territory prescribed; and

WHEREAS, the STANDARD COMPANY, directly and through subsidiaries, is engaged in the production, transportation and refining of crude oil for the production of gasoline or motor fuel, in the United States and abroad, and has heretofore conducted research work directed toward increasing the supply, reducing the cost and improving the quality of motor gasoline, and expects to continue such work and is now the owner of certain inventions relating to

processes of producing materials to be used for addition to motor fuel to improve the same with respect to its susceptibility to detonation; and

WHEREAS, at the present time there are substantial differences in the quality and performance characteristics of the various brands of gasoline and motor fuel sold in the United States and abroad, especially with respect to volatility and resistance to detonation, and

—2—

there is no satisfactory method by which the consumer may determine the brand best suited to his requirements; and

WHEREAS, it is deemed desirable by the parties hereto to provide for the general distribution and sale in the United States and abroad of a high quality non-detonating motor fuel under a name or names capable of identification by the consumer; to secure a workable means for defining and insuring the maintenance of a minimum quality standard for such motor fuel based upon sound technical and economic principles and flexible with regard to varying conditions, and to devise or discover and to employ commercially such improvements in anti-knock agents so as to raise without additional cost the standard of quality of gasoline with respect to resistance to detonation, or to reduce the cost of gasoline while maintaining the same standard of quality,

NOW, THEREFORE, in consideration of the premises, the covenants herein contained and other valuable considerations, the parties hereto hereby agree as follows:

1. To form a corporation under the laws of the State of Delaware, or such other jurisdiction as may be agreed upon, to be called "ETHYL GASOLINE CORPORATION", here-

inafter referred to as the "ETHYL COMPANY", with an authorized capital stock of Five Million Dollars (\$5,000,000.00), or such other amount as may in the judgment of the parties hereto be required to carry out the purposes of this agreement.

The stock of said Company shall be issued from time to time in equal portions to the parties hereto at par, payable in cash. Said Company shall acquire from the General Motors Chemical Company all of its physical assets now used in connection with its business of the sale and distribution of anti-knock mixture, at the replacement cost thereof.

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2. The STANDARD COMPANY agrees to grant to the ETHYL COMPANY an exclusive license in the United States and abroad under its patent rights on anti-knock mixtures, which license will be in the form of Exhibit A hereto attached.

3. The STANDARD COMPANY further agrees on behalf of itself and the Standard Oil Company of Louisiana that on request of the General Motors Chemical Company each of them will surrender its present exclusive license for the sale of antik-knock mixture and will take in lieu thereof a non-exclusive contract from the ETHYL COMPANY substantially in the form of Exhibit B hereto attached, or in such other form as may be satisfactory to all the parties; and GENERAL MOTORS agrees that the General Motors Chemical Company will assign to the ETHYL COMPANY its business and good will of selling anti-knock mixtures, its interest in any and all existing contracts for the purchase and distribution of said mixtures, the constituents thereof and apparatus used in connection therewith, together with any and all trade names, trademarks or rights in respect

thereto in the United States of America and foreign countries, such assignment to be effective as of August 1st, 1924.

4. GENERAL MOTORS agrees that the General Motors Research Corporation will grant to the ETHYL COMPANY an exclusive license under its patent rights on anti-knock mixtures for the United States of America and foreign countries, subject to the terms and limitations therein expressed, for a royalty equal to one-fourth of the net profits of the ETHYL COMPANY resulting from the distribution and sale, and not the manufacture, of royalty bearing compounds, which license will be in the form of Exhibit C attached hereto.

5. The control of the affairs of the ETHYL COMPANY shall be vested in its Board of Directors, consisting of an even number, for the election of which cumulative voting shall be provided, to the end that the parties hereto as owners of one-half of the outstanding stock of said ETHYL COMPANY, may each elect one-half of the directors. To constitute a quorum at least one director in addition to one-half of the total number of the Board must be present, and action by the Board

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shall require at least the concurrence of a like number of directors.

6. In the event that either party hereto desires to sell, transfer, assign or mortgage any of its shares in the ETHYL COMPANY, the other party, subject to the prior right granted to the ETHYL COMPANY, shall have the right at its option to purchase all or any part of the shares then owned by the party desiring to sell or transfer any of the stock owned or



held by it. The price per share shall be the book value thereof as set forth on the books of the ETHYL COMPANY as of the end of the month preceding the date when notice in writing is given of the desire to sell, and in the event of a dispute in regard thereto the price shall be determined by a firm of public accountants in the same manner as provided for the determination of differences in respect to royalties in the license agreement (Exhibit C), and their award in respect thereto shall be final and conclusive.

7. It shall be the policy of the ETHYL COMPANY to license generally distributors of motor fuels in the United States on the same basis as nearly as may be, having regard to the quantity of their purchases, and all other corporate matters shall be determined solely with reference to the interests of the ETHYL COMPANY in cases where there may be conflict between its interests and the interests of either or both of the parties hereto.

8. The ETHYL COMPANY shall purchase tetraethyl lead or other anti-knock agent in the open market at the lowest price at which it is offered and, to permit competitive bidding, shall offer to instruct and license any bona fide probable supplier, including the STANDARD COMPANY; provided, however:

Purchases shall be made from E. I. duPont de Nemours & Company under the existing contract between it and GENERAL MOTORS, copy of which is attached hereto (Exhibit D), until the expiration of said contract

—5—

or until a substitute therefor is made direct with the ETHYL COMPANY.

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IN WITNESS WHEREOF, the parties hereto have, each by due authority to the subscribing officers, executed these presents the day and year first above written.

GENERAL MOTORS CORPORATION

By

/Alfred P. Sloan, Jr./  
President

Attest:

/L. R. Beardslee  
Asst. Secretary

STANDARD OIL COMPANY

By:

/S. B. Hunt/  
Vice President

Attest:

/C. T. White/  
Secretary

"EXHIBIT A"

For and in consideration of One Dollar (\$1.00) and certain other valuable considerations, the receipt of all of which is hereby acknowledged, STANDARD OIL COMPANY, a corporation of New Jersey, and STANDARD DEVELOPMENT COMPANY, a corporation of Delaware, do hereby grant and agree to grant unto the ETHYL GASOLINE CORPORATION, a corporation of Delaware, the exclusive right and license under their "patent rights" relating to anti-knock mixtures, for the full term of any patent or patents included within said patent right, and for all of the territory within which said patent or patents are effective, to make, use and sell the machines, articles of manufacture, arts or compositions of matter which constitute the subject matter of said "patent rights", and to license others to make, use and sell the same;

AND the Standard Oil Company and Standard Development Company do further agree to protect the Ethyl Corporation against the competition of infringers of the said "patent rights" by promptly bringing and diligently prosecuting to a conclusion, at their own expense, suits for patent infringement against such infringers if and when the Ethyl Corporation shall give them notice of the fact of any claimed infringement.

It is understood that certain "patent rights" of the Standard Oil Company and Standard Development Company are or may be held or acquired by the said Companies or one of them, subject to certain limitations created by existing contracts with others, and that as to such "patent rights" the Standard Oil Company and/or Standard Development Company grant hereunder only such rights as lie

within their power to grant under the said existing contracts without the permission or consent of the other parties thereto. Subject to the foregoing, the Standard Oil Company and Standard Development Company warrant that they are directly or indirectly the sole, exclusive and lawful owners of the aforesaid patents and patent applications and the inventions upon which they are based, that said inventions comprise all the inventions relating to said subject matter owned by them or either of them, or by any company owned or controlled directly

—7—

or indirectly by the Standard Oil Company, and that they have the right and capacity to grant the license herein specified.

The "patent rights" relating to anti-knock mixtures herein referred to are hereby defined as follows:

1. Any letters patent which may in the future issue for or upon the following applications for patents owned by the Standard Development Company (or held in trust by it) or upon any renewal or division or continuation thereof:

<u>Country</u>	<u>Serial Number and Date</u>	<u>Title</u>	<u>Inventor</u>
United States	403,656 8/16/20	Motor Fuel & Internal Combustion Operation	F. A. Howard
United States	628,734 3/30/23	Alloys	Kraus & Callis
Canada	292,485 6/13/24	Alloys	Kraus & Callis
United States	630,089 4/5/23	Art of Preparing Metallo-Organic Compounds	Kraus & Callis
United States	630,090 4/5/23	Preparation of Metals for Chemical Uses	Kraus & Callis
Canada	292,485 6/13/24	Preparation of Metals for Chemical Uses	Kraus & Callis
United States	630,091 4/5/23	Processes of Alkyla- tion	Kraus & Callis



United States	631,940	Art of Making Metallo-Organic Compounds	Kraus & Callis
Argentina	27,562 4/8/24	"	"
Australia	17,173 4/4/24	"	"
Austria		"	"
Belgium	3,146 3/17/24	"	"
Brazil	9,747 4/2/24	"	"
Canada	286,139 3/24/24	"	"
Czecho-Slovakia		"	"

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<u>Country</u>	<u>Serial Number and Date</u>	<u>Title</u>	<u>Inventor</u>
England	7,382 3/22/24	Art of Making Metallo-Organic Compounds	Kraus & Callis
France	185,624 3/19/24	"	"
Germany	37,795 3/24/24	"	"
India	10,213 3/31/24	"	"
Japan	2,637 4/4/24	"	"
Italy	Pat No. 228,844 4/3/24	"	"
Hungary	4,488 3/19/24	"	"
Holland	26,633 5/23/24	"	"
Norway	30,246 3/17/24	"	"
Poland	13,795 4/4/24	"	"
Spain		"	"
Sweden	937,24 3/19/24	"	"
United States	631,941 4/13/23	Processes of Preparing Alkyl Compounds of Lead	"

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<u>Country</u>	<u>Serial Number and Date</u>	<u>Title</u>	<u>Inventor</u>
United States	655,752 8/4/23	Making Metallo-Organic Compounds	"
Canada,	292,486 6/13/24	"	"
United States	608,486 12/22/22	Vaporizer Control Devices	McKensie- Martyn
United States	609,913	Art of Controlling Com- bustion in Internal Com Engines	Howard & Wright

2. Any letters patent of the United States or of any foreign country which may in the future issue to or be acquired by the Standard Oil Company and/or the Standard Development Company and/or any corporation owned by the Standard Oil Company for any invention which is made before August 1, 1940, and which invention relates to or consists in or comprises:

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- (a) Any substance which, added to the explosive charge of an internal combustion engine in minute proportions as compared with the fuel, has an effect in preventing detonation which is equivalent to the effect produced by the addition of lead tetra-ethyl to present United States Government specification gasoline from Pennsylvania Crude petroleum in the proportion of three cubic centimeters per gallon of gasoline.
- (b) Any composition or anti-knock mixture, including the substance defined in Paragraph (a) as its effective detonation suppressing agent and one or more other constituents having auxiliary utility.
- (c) Any method or process for manufacturing or using the substance defined in Paragraph (a) or the mixture defined in Paragraph (b),—(not including

however processes for the manufacture or refining of petroleum oil or of secondary alcohols from the unsaturated hydrocarbons of petroleum oil or products of refining the same.)

- (d) Any equipment or apparatus for use in manufacturing, mixing or dispensing the substance defined in Paragraph (a) or the mixture defined in Paragraph (b).

The Standard Oil Company and the Standard Development Company agree that they will perform all acts and execute all instruments required under the laws of any country to vest in the Ethyl Gasoline Corporation the exclusive right and license herein granted.

IN WITNESS WHEREOF, the Standard Oil Company and the Standard Development Company have caused this instrument to be executed by their duly authorized officers at the City of New York this 28th day of August, 1924.

STANDARD OIL COMPANY

By:

.....

President

—10—

Attest:

.....

Secretary

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STANDARD DEVELOPMENT COMPANY

By:

.....  
President

Attest:

.....  
Secretary

ACCEPTED.

ETHYL GASOLINE CORPORATION

By:

.....  
President



## Exhibit B

11

THIS AGREEMENT, made this       day of       , 1924, between ETHYL GASOLINE CORPORATION, a corporation organized and existing under the laws of the State of Delaware, having its principal offices at the City of New York, State of New York, hereinafter termed "Seller" and STANDARD OIL COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal offices at the City of Bayonne, State of New Jersey, hereinafter termed "Buyer", WITNESSETH:

WHEREAS, the Seller and its licensors have been and now are engaged in devising and developing certain materials to be mixed with the fuel (gasoline, kerosene or other motor fuel) for internal combustion engines, the object of such admixtures being to render such fuel non-knocking, and thereby to make it possible to use higher compression pressure in such engines without producing the detonation commonly known as "knock", and with the further advantage of increasing the power output of said engines with attendant economy of fuel consumption; and

WHEREAS, the Seller represents that the preferred material thus far developed from such admixture is an organic compound known as "tetraethyl lead"; and

WHEREAS, the Seller represents that when tetraethyl lead is mixed in the proportion of about three cubic centimeters per U. S. standard gallon with a straight run petroleum distillate consisting mainly of paraffin hydrocarbons (for example, straight run distillate from Pennsylvania

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crude), and just conforming to the "New Navy" Specifications for gasoline now in force, there is produced a motor fuel suitable for use in motors of sufficiently higher compression to warrant their general adoption, and which may be described as non-knocking fuel equal in this property to a mixture of sixty per cent. (60%) of the original fuel plus forty per cent. (40%) benzene (commercial 90%); and

## 12

WHEREAS, the Seller represents that it has ascertained additions in the way of other materials or compounds necessary to prevent certain harmful secondary effects attendant upon the use of tetra-ethyl lead, the mixture of said materials or compounds with said tetra-ethyl lead constituting the mixture hereinafter referred to as "anti-knock mixture"; and

WHEREAS, the Buyer represents that it is engaged in the business of selling gasoline to the public, and is now selling and intends to sell during the continuance of this agreement a gasoline which is of high quality in all respects; and the Buyer further represents that it is desirous of distributing a gasoline which will in non-knocking characteristics be equivalent to 60% of the hereinbefore described straight run distillate plus 40% benzene (benzol) and that if the said anti-knock mixture will enable the Buyer to accomplish such purpose it is willing to purchase the same from the Seller in accordance with and subject to the hereinafter expressed terms and conditions,

NOW THEREFORE, in consideration of the premises and of the covenants and agreements hereinafter set forth, the said parties hereby agree as follows:

1.

(a) The period of this contract shall be for two (2) years from date.

(b) The seller hereby appoints the Buyer, for the period of this contract and for the territory hereinafter defined, a distributor of its anti-knock mixture, and subject to the provisions hereinafter contained, agrees to fill the Buyer's requirements for such mixture for use and sale within said territory, which comprises the State of New Jersey, West Virginia, District of Columbia, Maryland, Virginia, North Carolina and South Carolina.

\*Note "A"

(c) The Buyer agrees that it will diligently push the sale and use of the Seller's anti-knock mixture in and throughout said territory, and that it will comply with the instructions of the Seller as to the manner of use of said mixture and as to the amount to be used with each grade of gasoline in order to secure the best results

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therefrom and maintain the reputation and good will thereof, and that it will give similar instructions and advice to those to whom it may sell said mixture for use in said territory, and that it will devote its energies in this connection to the use and to the marketing of said mixture within said territory only.

(d) The Seller may, at its option, refuse to sell said anti-knock mixture to the Buyer and may terminate this contract upon thirty days' written notice whenever, in the opinion of the Seller, the Buyer is not diligently pushing and advocating the sale and use of the Seller's anti-knock mixture in said territory, or is failing to comply with the aforesaid instructions of the Seller, or is using or selling

said mixture in or for use in other territory, or is in any respect failing to comply with its obligations hereunder.

## 2.

(a) The Seller shall, at its own expense, deliver to the Buyer, or to others designated by the Buyer in said territory, on Buyer's orders from time to time, mixing meters and attachments for the sale and mixing of anti-knock mixture, but not more than one for each location unless, in the opinion of the Seller, more than one is warranted by the business in any such location. The Buyer shall cause these to be installed within said territory as promptly as practicable, after demonstration and instruction to be furnished at the Seller's cost, and shall notify the Seller as to the location of each installation. The Seller shall furthermore reimburse the Buyer for the expense of such installation, not to exceed One Dollar (\$1.00) for each installation.

The Seller shall have the right to install any Ethylizer thirty days after shipment if the Buyer has for any reason failed to do so.

(b) The Seller shall keep all mixing meters and attachments therefor in good operative order and repair at its own expense during the continuance of this agreement, and shall, upon being notified by the Buyer that any thereof need attention, repair or replace the same promptly. The Seller or the Seller's agent shall be afforded every

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reasonable facility and opportunity to enable its properly to inspect any of said meters and attachment therefor whenever it may so desire.



(c) The Seller further agrees, without expense to the Buyer and upon the Buyer's request, to equip any or all bulk stations within said territory with apparatus suitable for mixing said anti-knock mixture with gasoline in bulk, to enable the said mixture to be dispensed from bulk supplies. All such apparatus shall be kept in good order and repair by the Buyer and surrendered to the Seller in good order, less ordinary wear and tear, upon the Buyer wholly ceasing to vend said mixture. The seller agrees to furnish and deliver without cost to the Buyer, at such place or places as may be designated by the latter, all such extra parts as may be reasonably required to keep the said apparatus in good order and repair.

(d) All of said mixing meters and attachments therefor and bulk station apparatus and parts shall be and remain the exclusive property of the Seller, and are hereby leased to the Buyer (with the right to sub-lease to its customers) at \$1.50 per annum for each mixing meter and attachments therefor and \$ . . . per annum for bulk station equipment, which the Buyer hereby agrees to pay. Any of them at any time may be surrendered to the Seller or, on notice to and consent of the Seller, may be removed by the Buyer to any new location in said territory, the expense of reinstallation at a new location to be borne by the Buyer. The Buyer shall exercise reasonable diligence for the care and protection of all said mixing meters and attachments and shall be liable or responsible therefor, only for want of the exercise of such reasonable care and caution, and shall not be liable if, although having exercised all such care and caution, the same are lost, stolen or injured.

(e) None of the Mixing meters, attachments therefor or apparatus mentioned in this paragraph shall, during the life of this contract, be removed by the Seller without the

consent of the Buyer so long as the same continue to be used for the purpose of vending said anti-knock mixture. Reasonable access thereto shall at all times be granted to the Seller and its representatives.

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(f) The Buyer agrees to order from the Seller such quantity of anti-knock mixture as may be reasonably necessary to supply the demands of the public at all such locations in said territory as shall have been equipped with mixing meters and bulk station apparatus, and the Seller will fill all such orders with reasonable business promptness barring unavoidable delay.

(g) The Seller will ship for account of the Buyer and on Buyer's orders and instructions, freight prepaid, anti-knock mixture in suitable containers, which containers shall be the property of the Seller and shall be returned to it at such place or places as the Seller may from time to time designate and at the Seller's cost.

(h) The Buyer recognizes that in order to secure reasonably satisfactory results from adding such anti-knock mixture to gasoline, there should be used such proportion of anti-knock mixtures as may be necessary to maintain the standard of anti-knock values set forth in the preamble of this agreement, and that it would be detrimental to the good will in, and reputation of, said mixture if it were used in gasoline not conforming to at least the following standard of quality:

(Insert-Summer Spec. ) To be different according  
 Winter Spec. ) to time and conditions.

and that the use of said mixture in such proportions as not to maintain said minimum standard or in gasoline not con-

forming to at least the said standard will constitute a cause for termination of this agreement under paragraph I hereof.

The Buyer agrees to supply to the Seller on the first of each month a laboratory inspection report in substance the same as that hereto attached, showing the quality of all current deliveries of gasoline in which Seller's anti-knock mixture has been or will be used, and the Seller and its representatives shall at all times be permitted to sample the gasoline sold by the Buyer treated with said mixture and in general to inspect the premises where and the manner in which said mixture is being sold by the Buyer.

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### 3.

The price to be paid by the Buyer to the Seller for said anti-knock mixture shall be based upon the quantity of tetra-ethyl lead contained in the anti-knock mixture furnished to the Buyer and shall be Ten Dollars (\$10.00) for each liter thereof contained in said mixture, delivered at such points as may be designated by the Buyer from time to time, payment to be made within ten days after delivery. The proportion of tetra-ethyl lead in said mixture shall, however, at no time during the continuance of this agreement, be less than one and three quarters liters in each five liters of said mixture, unless some agreement as to the cost thereof be arrived at between the Buyer and Seller.

The Buyer shall be entitled to and shall receive the following quantity discounts: For all purchases above 50,000 liters of anti-knock mixture in any one year, a discount of 10%; for all purchases above 100,000 liters in any one year, a further discount of 5%.

Should the Seller reduce the price of said tetraethyl lead or sell the same within the United States at a less price or

with a greater or more favorable discount to any other purchaser during the continuance of this agreement, it will give a similar reduction to the Buyer.

## 4.

The Seller elects to call the gasoline when mixed with the said anti-knock mixture "Ethyl Gas", unless adverse trademark rights should develop, and the Buyer agrees that all its advertisements of the same and the advertisements of those to whom it sells for resale shall embody the word "Ethyl" or Ethylized", though not if such adverse trademark right develop, in which event the Buyer agrees that said advertisements shall embody some other suitable word or words free to be used and which the Seller may elect to be employed therein.

It is understood and agreed, however, that any and all responsibility for trademark, label or analogous infringement, including rights relating to unfair competition, with which the Buyer or those to whom it sells for resale, may be charged for employing in such advertisements any word or words which the Seller shall so elect to employ, shall

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be assumed by the Seller, provided that it is promptly notified of such claims and permitted to have full control of defending against the same; and, under such circumstances the Buyer and its customers shall be held harmless from all such claims, and the Seller shall, at its own expense, defend any or all litigation based on the use of such word or words and pay any judgment or judgments that may be awarded to the plaintiff in the premises, or the amount of any settlement therein, if settlement be made by the Buyer with its consent.



5.

The Seller shall advertise in its own name and at its own expense, the said anti-knock mixture, in and for the territory covered by this contract, the character of such advertising and the medium thereof to be solely in the Seller's discretion. All such advertising, however, that contains the Buyer's name or refers in any way to the Buyer's products shall be submitted to the Buyer and its approval obtained before being published. The cost of all such advertising shall be determined by the Seller but shall not be less, in the aggregate amount during any six months' period of this agreement than two per cent (2%) of the amount paid by the Buyer for the anti-knock mixture purchased from the seller during the next preceding six months' period. Where any such advertising, however, partakes of a general character and is not solely confined to the aforesaid territory, a fairly proportionate amount of the cost thereof shall be allocated to and included in said two percent.

6.

If the Buyer or those to whom it sells for resale charges the user for gasoline treated with anti-knock mixture under this contract more than three cents (3¢) per gallon of treated gasoline in excess of the then sales price of untreated gasoline, it shall be considered that the sale of said mixture is not being properly and adequately pushed under this contract, and that the Seller may thereupon terminate this contract under the provisions of paragraph 1 hereof.

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7.

For the purposes of this agreement, anti-knock mixture or material is defined to mean any substance which,

when added in a very small amount to gasoline or other motor fuel, tends to suppress detonation.

During the period of this contract the Buyer agrees:

- (a) Not to use commercially or sell any anti-knock mixture or material which infringes upon Seller's patent rights, as they may exist from time to time during the term hereof.
- (b) Not to use other than Seller's anti-knock mixture in Seller's mixing meters or attachments or bulk station apparatus.

8.

The Seller shall prepare and supply to the Buyer two forms of information and instruction, one for the guidance of service station and garage employees and any other who may handle the anti-knock mixture or dispense the gasoline, and a second form of directions and information for the consumer. These instructions shall be printed in convenient form by the Seller and delivered to the Buyer in sufficient quantities for distribution, and the Buyer shall cause them to be distributed in its territory; and should any suit or suits be brought against the Buyer, or its customers, for injury to person or property arising from the handling or use of any of said mixture that may have been furnished by the Seller and it be established in the prosecution of such suit or suits that, although all of the provisions of said directions were fully complied with by the claimant, such injury nevertheless occurred, the Seller will defray the entire expense of settling the same, or if not settled out of Court, the Seller shall pay all of the costs of any such litigation, together with the full amount of any judgment that may be rendered against the Buyer and/or its customers. The Seller shall be promptly notified by the Buyer of any such claim.

or suit and it shall be represented by its own counsel in all negotiations or proceedings relative thereto and may assume exclusive charge thereof if it so desires. In case of any liability

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for injury to person or property arising from the handling or use of any of said mixture other than that covered by the foregoing portion of this paragraph and not due to the negligence or carelessness of either party hereto, their employees, agents and representatives, for which they shall be exclusively liable, such liability and any and all expense incident thereto shall be borne equally by the Seller and Buyer, it being understood that no settlement of any claim for liability shall be made except by mutual agreement of the parties hereto.

If the Seller finds and brings to the attention of the Buyer that any employee of the Buyer, and/or its customers, is disregarding the aforesaid printed instructions, it will be considered that the Buyer is not properly handling the business under this contract.

9.

The Seller agrees at its own expense to defend the Buyer, and/or its customers, in any action or actions that may be brought alleging that the use and/or sale of anti-knock mixture so supplied by the Seller infringes any Letters Patent of the United States, and agrees to pay any and all judgments for damages or profits arising out of such litigation that may be assessed against the Buyer and/or its customers, thereby saving them harmless therefrom; all provided, however, that the Seller shall be given prompt notice of any claim of infringement or suit therefor and is

permitted to have full charge of the defense of any such suit or suits.

## 10.

The Seller has not as yet obtained Letters Patent of the United States for or relating to any of the anti-knock materials or compounds or mixers or other apparatus named in this agreement, but has applications therefor, or for some thereof, pending in the United States Patent Office and will procure the issuance as soon as practicable of Letters Patent upon at least one of such applications relating to said mixture. The Seller hereby grants and agrees to grant to the Buyer such non-exclusive licenses under any such patents as may be

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necessary in connection with the sale and use of the mixture under this contract.

And the Seller hereby agrees that it will, at its own expense, bring and prosecute diligently through the Court or Courts of last resort, or otherwise, to final adjudication, proceedings against infringers in said territory of any United States Letters Patent which may be granted to the Seller for anti-knock materials and/or mixtures (but it shall not be obliged to prosecute more than one such suit at one time), to the end of establishing its rights under such Letters Patent and protecting the Buyer, and its customers, in their rights hereunder, it being understood that the Buyer shall be entitled to representation by its own counsel in any such litigation.



11.

All of said mixture that may be sold by the Seller to any distributors of gasoline within the territory other than the Buyer shall be practically the same in effect as the mixture sold to the Buyer hereunder, and, if the Seller at any time sells said mixture to anyone in the territory of the United States on more favorable terms than those hereof, the Buyer shall be so advised by the Seller and be entitled to the benefit thereof.

12.

The Buyer agrees for and during the term of this contract to acknowledge the validity of all Letters Patent issuing upon the aforesaid applications or upon applications hereafter filed by the seller relating to or to the use of the mixtures, mixers and apparatus under this agreement, and agrees not to contest the validity of the said Letters Patent or to directly or indirectly aid or abet others in doing so.

13.

All of the terms and provisions of this agreement as well as any extension or continuation thereof shall inure to the benefit of and be binding upon the successors of each of the parties hereto. So much thereof relating to the sale, distribution, ownership, installa-

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tion and inspection of said mixture and apparatus as is deemed desirable by the Seller may be executed by corporations or a corporation formed by the Seller for said purpose.

4408

IN TESTIMONY WHEREOF, the parties hereto have, each by due authority to the subscribing officers, executed these presents the day and year first above written.

ETHYL GASOLINE CORPORATION

By:

.....

President

Attest:

.....

Secretary

STANDARD OIL COMPANY

By:

.....

President

Attest:

.....

Secretary

NOTE "A"—In the case of the Standard Oil Company of Louisiana, the territory of the contract shall be the States of Louisiana, Tennessee and Arkansas.

EXHIBIT C

AGREEMENT, made this 28th day of August, 1924, between GENERAL MOTORS CORPORATION, a corporation of Delaware, herein referred to as "GENERAL MOTORS", first party, GENERAL MOTORS RESEARCH CORPORATION, a corporation of Delaware, herein called "RESEARCH COMPANY", second party, and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "ETHYL COMPANY", third party, WITNESSETH:

WHEREAS, the ETHYL COMPANY has been formed by GENERAL MOTORS AND the Standard Oil Company, a corporation of New Jersey, pursuant to the terms of an agreement between them dated August 1st, 1924, for the purpose, among other things, of becoming the exclusive licensee under the inventions hereinafter referred to; and

WHEREAS, the RESEARCH COMPANY is a subsidiary of GENERAL MOTORS and is the owner of various inventions in anti-knock agents or mixtures for motor fuels and in particular of the following pending applications for Letters Patent and Letters Parent of the United States of America and the foreign countries specified below:

<u>United States Patent Number</u>	<u>Title</u>	<u>Date</u>	<u>Inventor</u>
1,296,832	Fuel for Internal Combustion Engines	Mar. 11, 1919	Thomas Midgley, Jr.
1,467,905	Hydrogenation Furnace	Sept. 11, 1923	Thomas Midgley, Jr.
1,446,984	Method of Revivi- fying Spent Cata- lysts & Apparatus Therefor	Feb. 27, 1923	Thomas Midgley, Jr.

<u>Serial Number</u>	<u>Title</u>	<u>Inventor</u>
256,874	Motor Fuel	Thomas Midgley, Jr.
362,139	Fuel	Thomas Midgley, Jr.
663,505	Prevention of Fuel Knocks	Thomas Midgley, Jr.
553,040	Method and Means for Increasing Efficiency of Internal Combustions Engines	Charles F. Kettering and Thomas Midgley, Jr.
684,255	Method and Means for Using Low Compression Fuels	Charles F. Kettering and Thomas Midgley, Jr.
592,435	Method and Means for Treating Motor Fuels	Thomas Midgley, Jr.

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<u>Serial Number</u>	<u>Title</u>	<u>Inventor</u>
553,270	Method and Means for Using Motor Fuels	Thomas Midgley, Jr.
640,274	Fuel	Thomas Midgley, Jr.
663,494	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,495	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,497	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,498	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,499	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,500	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,501	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,502	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
663,503	Method and Means for Using Low Compression Fuels	Thomas Midgley, Jr.
553,021	Process of Making Anti-Knock Fuel	Thomas Midgley, Jr.
645,465	Method for Producing Lead Compounds	Brian Head
640,275	Process for Making Compounded Metallic Elements	Thomas Midgley, Jr.
661,515	Process of Making Lead Alkyls	Merrill A. Youitz
648,782	Method for Producing Lead Compounds	George Calingaert



686,924	Process of Producing Alkyl Compounds of Lead	George Calingaert
417,162	Aniline Injector	Thomas Midgley, Jr.
431,528	Method and Means for Incorporating an Anti-Knock Substance with a Motor Fuel Mixture	Fred E. Aseltine
636,892	Method of Cracking Hydrocarbons	Thomas Midgley, Jr.
663,478	Method and Means for Removing Carbon Deposits from Engine Cylinders	Thomas Midgley, Jr. and Carroll A. Hochwalt
663,487	Method and Means for Removing Carbon Deposits from Engine Cylinders	Carroll A. Hochwalt

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<u>Serial Number</u>	<u>Title</u>	<u>Inventor</u>
666,260	Process of Producing Dialkyl Selenides and Tellurides	Carroll A. Hochwalt
695,846	Fuel Mixing Apparatus	Thomas Midgley, Jr.

<u>British Patent Number</u>	<u>Title</u>	<u>Date</u>	<u>Inventor</u>
196,237	Improvements in and relating to Fuels for Internal Combustion Engines	Dec. 27, 1923	Thomas Midgley

together with all applications for Letters Patent in foreign countries now pending in respect to the said subject matter covered by the foregoing or any part thereof; and

WHEREAS, the ETHYL COMPANY is desirous of acquiring certain license rights thereto, including the right to sell to motor fuel distributors the royalty bearing compounds or mixtures manufactured under the inventions herein referred to.

NOW, THEREFORE, in consideration of the promises, the covenants herein contained and other valuable consideration, it is hereby agreed by and between the parties hereto as follows:

1. GENERAL MOTORS and RESEARCH COMPANY warrant that they are directly or indirectly the sole, exclusive and lawful owners of the aforesaid patents and patent applications and the inventions upon which they are based, that said inventions comprise all the inventions relating to said subject matter owned by them, or either of them, or by any company owned or controlled directly or indirectly by GENERAL MOTORS, and that they have the right and capacity to grant the license herein specified.

2. GENERAL MOTORS and RESEARCH COMPANY do, and each of them does, hereby grant unto the ETHYL COMPANY the exclusive right and license to make, use and sell, and to license others to make, use and sell, within the United States of America, its territories and possessions, and in the foreign countries embraced in the patents and patent applications specified above, the inventions constituting

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the subject matter of said patents and patent applications, or any of them, to the end of the term or terms for which said letters Patent have been or may be granted.

3. The ETHYL COMPANY agrees to pay GENERAL MOTORS at its office, No. 224 West 57th Street, in the City of New York, commencing January 1, 1925, and continuing during the lives of the aforesaid patents and of any patents to be issued upon said applications, or any of them, or any division or renewal of any of them, as royalty, a sum of money equal to one-fourth of its yearly profits resulting from the distribution and sale (not the manufacture) of royalty bearing compounds adapted for use as anti-knock agents or mixtures and covered by any of the aforesaid patents or any claim of any patent granted upon any of the

aforesaid patent applications, or divisions or renewals thereof. In determining said royalty there shall be first deducted from said yearly profits as shown by the books of the ETHYL COMPANY an amount equal to the income or profits taxes which will be payable for or on account of the year's business, and a further sum equal to Twenty-two and One-half Per Cent. ( $22\frac{1}{2}\%$ ) of the average capital and surplus (mathematical mean of capital and surplus employed at beginning and end of accounting period) employed by the ETHYL COMPANY during the accounting period in its business of selling and distributing (but not manufacturing) said royalty bearing compounds or mixtures. After the first yearly payment of royalty as above provided, payments based upon estimates arrived at from the preceding yearly figures and upon the current business, shall be made monthly on the tenth of each month, subject to adjustment at the end of such yearly period.

For the purpose of determining the profits of the ETHYL COMPANY from the manufacture of anti-knock agents or mixtures, products so manufactured shall be billed by the Manufacturing Department to the Sales Department at the average price (weighted average) paid by the ETHYL COMPANY to outside suppliers of the same products during the same period.

4. ETHYL COMPANY agrees to keep true and accurate books of account showing said profits, and to give unconditional access thereto

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during business hours to GENERAL MOTORS and its representatives, and further agrees to render at the time that royalties are due hereunder a true and accurate statement in writing showing the profits as aforesaid and the details

of the computation thereof, the yearly statement thereof to be certified to by either Haskins & Sells, Price Waterhouse & Company or Barrów, Wade & Guthrie, certified public accountants, or by a substitute firm to be selected by the parties hereto in case of the inability of any of said firms to act. Either party dissatisfied with the report of the first of said accountants selected shall have the right to have either of the other accountants render a statement and the amount of royalty due in respect of said period shall be the average of said two statements.

5. All undertakings by the ETHYL COMPANY on its part to be kept and performed are each and all of the essence of this agreement, for the default in the performance of any of which for a period of sixty (60) days after notification in writing of such claimed default the GENERAL MOTORS and/or RESEARCH COMPANY shall have the right to terminate forthwith all the herein granted rights of the ETHYL COMPANY in and to said inventions, patent applications and patents to be issued thereon free of any claim of said ETHYL COMPANY, by notifying said ETHYL COMPANY in writing to that effect at its last known place of business; provided, however, that said default or violation has not theretofore been rectified, cured and made good within said sixty (60) days.

6. The omission of the first or second party to exercise any right hereunder shall not be construed as a waiver of any other default, and it is further agreed that proof of any violation or default by the ETHYL COMPANY and of the giving of the notice herein provided shall be sufficient forthwith to completely reinvest GENERAL MOTORS and the RESEARCH COMPANY with all the right and interest of the ETHYL COMPANY under said Letters Patent and Patent



applications without any further step or proceeding whatsoever, subject, however, to the right of the ETHYL COMPANY to rectify, cure and make good any default as hereinbefore provided.

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7. The ETHYL COMPANY hereby agrees to acknowledge the validity of each and all of the Letters Patent that may be issued on the applications recited herein and agrees not to contest the same or to directly or indirectly aid or abet others in so doing.

8. The ETHYL COMPANY agrees that on each and every container or package of compound or mixture manufactured or sold by it under this agreement, after receipt of notice from the first party of the issuance of any patent on the above-recited patent applications, it will mark the word "Patented", the dates of the patents involved and any other notation requested by the first party to protect the rights of the first party in the observance of the requirements of the United States Patent Statutes or the Patent Laws of any foreign country under which patents may be issued.

9. In any of the following events, this agreement shall cease and terminate, and all payments provided for herein shall immediately become due and payable, without any notice or act by the first party: the filing by the third party of a voluntary petition in bankruptcy, the making by the third party of a general assignment for the benefit of creditors, with or without preference, the application by the third party for a receiver of its property, and the determination of its property, and the determination of its insolvency, in any proceedings brought against the third party, or the admission of insolvency by the third party.

10. The license herein granted shall also extend to any Letters Patent of the United States or of any foreign country, which may in the future issue to or be acquired by GENERAL MOTORS and or the RESEARCH COMPANY and/or any corporation owned by GENERAL MOTORS, for an invention which is made before August 1, 1940, and which invention relates to or consists in or comprises:

(a) Any substance which, added to the explosive charge of an internal combustion engine in minute proportions as compared with the fuel, has an effect in preventing detonation which is equivalent to the effect produced by the addition of lead tetraethyl to present navy specification gasoline from Pennsylvania crude oil in the proportion of three cubic centimeters per gallon of gasoline;

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(b) Any composition or anti-knock mixture including the substance defined in Paragraph (a) as its effective detonation-suppressing agent and one or more other constituents having auxiliary utility;

(c) Any method or process for manufacturing or using the substance defined in Paragraph (a) or the mixture defined in Paragraph (b).—(not including however processes for the manufacture or refining of petroleum oil or its secondary alcohols from the unsaturated hydrocarbons of petroleum oil or products of refining of the same):

(d) Any equipment or apparatus for use in manufacturing, mixing or dispensing the substance defined in Paragraph (a) or the mixture defined in Paragraph (b).

It is expressly agreed that the ETHYL COMPANY shall not be obligated to pay any royalties for or on account of the license granted in this Paragraph, payment of royalties being limited to the license granted in Paragraph "2" hereof.

11. The first and second parties agree to protect the ETHYL COMPANY against competition of infringers. Upon receipt of notice from the ETHYL COMPANY of the fact of said claimed infringement of the patent rights covered hereby, they will promptly bring and diligently prosecute to final adjudication, at their own expense, suits for patent infringement against such infringers.

12. After two years from the date of execution hereof all liability of the ETHYL COMPANY as to royalty on account of the use of any invention in any country upon which no patent shall then have issued in such country shall cease, and shall be revived only if and when a patent or patents shall have issued in such country for such invention; except that if at the end of said two years an application for patent for such invention shall contain allowed claims which are involved in interference proceedings in the United States Patent Office or in analogous proceedings in any foreign country, then the ETHYL COMPANY'S obligation to pay royalties thereon shall extend for a further period of two (2) years unless such interference shall have been finally determined prior to the expiration

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of such two years. If any patent included within the scope of this license shall be held invalid or not infringed by a court of last resort, or by a lower court from whose decision no appeal is seasonably taken, then thereafter no royalties shall be payable hereunder on account of the use by the

ETHYL COMPANY of the subject matter covered by the claim or claims so held invalid, or on account of the use of processes of apparatus or anti-knock agents or mixtures in such decision held not to infringe such patent; the liability of the ETHYL COMPANY for royalties under other applications or patents not held invalid nor held not infringed remaining, however, unaffected by such decision. In the event, however, that in a second suit brought by GENERAL MOTORS the claim or claims so held invalid shall be held to be valid, or the process or apparatus or anti-knock agents or mixtures held to be non-infringing shall be held to be infringing, then the ETHYL COMPANY shall be obligated to pay any royalties which may have accrued between the date on which royalty payments ceased in pursuance of the results of the first case and the date of the second decision, and shall thereafter continue to pay royalties just as though the first adjudication of the patent had not taken place; and the ETHYL COMPANY shall continue to pay royalties until said second decision shall be reversed by a court of last resort or by a lower court from whose decision no appeal is seasonably taken.

13. The first and second parties further agree to perform all acts and execute any and all instruments that may be necessary under the laws of any country, to vest in the ETHYL COMPANY the exclusive right and license herein granted.

14. It is understood that the present agreement is subject to outstanding license agreements heretofore granted by the General Motors Chemical Company to the Standard Oil Company of Indiana, the Standard Oil Company of New Jersey, the Standard Oil Company of Louisiana, the Refiners Oil Company, of Ohio, the Gulf Refining Company



and the Waverly Oil Company (Pittsburgh) for exclusive rights within the territory in said agreements specified for a definite time.

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IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their respective officers thereunto duly authorized, and their corporate seals to be hereto affixed, the day and year first above written.

GENERAL MOTORS CORPORATION

By:

.....  
President

Attest:

.....  
Ass't. Secretary

GENERAL MOTORS RESEARCH  
CORPORATION

By:

.....  
President

Attest:

.....  
Secretary

ETHYL GASOLINE CORPORATION

By:

.....  
President

Attest:

.....  
Secretary

EXHIBIT D

THIS AGREEMENT, made this sixth day of October, 1922, between E. I duPONT de NEMOURS & COMPANY, a corporation of the state of Delaware, hereafter referred to as "Manufacturer", party of the first part, and GENERAL MOTORS CORPORATION, also a corporation of the State of Delaware, hereinafter referred to as "Purchaser", party of the second part.

WHEREAS, the Purchaser is now engaged in developing certain anti-knock compounds known generally as "tetra valent lead compounds", and

WHEREAS, the Purchaser is desirous that said compounds be manufactured for and sold to it by the Manufacturer, and the Manufacturer is willing so to do in accordance with the following terms and conditions.

NOW, THEREFORE, this agreement witnesseth that in consideration of the premises and of the sum of Five Dollars (\$5.00) paid by each of the parties hereto unto the other, the receipt of which is hereby acknowledged by each of said parties, it is hereby agreed:

FIRST: The Manufacturer agrees to install such equipment and apparatus as may be necessary to produce at least thirteen hundred pounds (1300) a day of said anti-knock compound, the formula for which has been heretofore furnished to it by the Purchaser, and shall sell and deliver the same to the Purchaser f.o.b. Wilmington at the rate of two dollars (\$2.00) for each of such pounds, such delivery of said compound to the Purchaser shall begin not

later than four months from the date that the Purchaser may notify the Manufacturer that it is prepared to accept the same, and shall continue at the rate of approximately thirteen hundred pounds per day for the period of one year after the date of such notification, it being understood however, that the aggregate number of daily shipments embraced within said year shall not exceed three hundred.

Invoices shall be rendered by the Manufacturer to the Purchaser on the first day of each month during the continuance of this agreement for all such deliveries made to it during the preceding month and paid promptly and in due course by the Purchaser,

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.SECOND: Should the Purchaser desire to change or alter the formula of said compound at any time during the continuance of this agreement, it shall have the right so to do, but such change shall not become effective until three months after written notice of such desire has been delivered by it to the Manufacturer, unless the Manufacturer elects to furnish the same within a shorter time.

Should any such change in said formula occasion a change or alteration in the premises or apparatus used by the Manufacturer in manufacturing said compound, the full cost thereof shall be borne by the Purchaser and the Purchaser shall also pay the Manufacturer any additional cost incident to such manufacture. If, however, such change of formula results in a less cost to the Manufacturer, the Manufacturer shall give the Purchaser the benefit thereof.

. THIRD: If during the aforementioned period of one year the Purchaser shall desire the Manufacturer to deliver to it a greater quantity of said compound than thirteen hundred pounds per day, and the Manufacturer is unwilling

or unable so to do, the Purchaser shall be at full liberty to manufacture or cause to be manufactured any such remaining quantity.

FOURTH: The Purchaser shall, not later than three months from the termination of the period of one year mentioned in the first paragraph hereof, and prior to three months from the termination of each succeeding year thereafter, notify the Manufacturer in writing of its daily requirements for said compound for the succeeding twelve months and the Manufacturer shall, within thirty days from the date it receives said notice, advise the Purchaser in writing whether or not it will furnish the same, the price thereof, the dates of deliver and the approximate number of pounds to be delivered. Should the Manufacturer be unable or unwilling to furnish the whole number of pounds of said compound desired by the Purchaser, it shall advise the Purchaser within thirty days from the date it receives said notice, and shall at the same time advise the Purchaser of the number of pounds it will furnish per day and the price thereof, and the Manufacturer shall then be at full liberty to manufacture or cause to be manufactured for it such remaining number of pounds.

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FIFTH: The price of Two Dollars (\$2.00) per pound for said compound as stated in the first paragraph hereof, shall not be subject to change during the period of one year as therein mentioned, except as provided in the second paragraph hereof, but the price quoted for such compound for the yearly requirements of the Purchaser as mentioned in the third paragraph hereof, shall if greater than the Purchaser finds it can produce or manufacture the same for on its own behalf, plus a reasonable profit to the Manufacturer,



or the cost thereof to it by some other manufacturer, then the Manufacturer shall reduce its price accordingly, and if unwilling so to do, the matter shall be referred to arbitration, as provided in the eighth paragraph hereof.

SIXTH: It is understood that this agreement is to be a continuing one, and is subject to cancellation by the Purchaser only in the event of the Manufacturer failing to perform its obligations hereunder, but the Manufacturer may cancel the same at any time after a notice in writing of such intention given by it to the Purchaser at least twelve months prior to the date of such intended cancellation. The Manufacturer shall also undertake to deliver to the Purchaser during each year of this agreement, including the twelve months succeeding the date of said cancellation notice, if given, a number of pounds of said compound at least equal to the number thereof furnished by it during the preceding twelve months.

Should the Purchaser desire to discontinue the use of anti-knock compound during the first year of this agreement, it may cancel the same but should it do so, it shall take over, at cost, such materials as may have been provided by the Manufacturer for the purpose of complying with its obligations hereunder and shall purchase all such finished product as the Manufacturer may have produced at \$2.00 a pound. The Purchaser shall also pay the Manufacturer the portion of the cost of the plant constructed for such production as the unfilled portion of the order bears to the total order.

SEVENTH: The manufacturer agrees that it will not manufacture said compound for any other person and will not during the continuance of this agreement manufacture or sell any anti-knock compound for or on account of any person other than the Purchaser, whether of a

like or similar nature without the consent of the Purchaser. Further, the Manufacturer agrees that if at any time during the term of this agreement it invents, originates or develops an anti-knock compound or my apparatus, device or other matter or thing in anywise connected with or relating to the manufacture of an anti-knock compound and which may be capable of being patented in the United States of America or elsewhere, that it will take all necessary steps so to do, and will promptly assign all applications for such patents to the Purchaser upon its request. It also agrees to keep the Purchaser fully advised of all developments made by it in connection with any such invention and will accept the advice and assistance of the Patent Department of the Purchaser in connection with any questions relating to the patent situation surrounding any such invention. The Purchaser agrees to pay the cost of filing and maintaining any such patent so acquired or applied for by the Manufacturer.

EIGHTH: In the event of any dispute arising hereto as to the price to be charged by the Manufacturer for anti-knock compound, or the amount to be received by it from the Purchaser should this agreement be cancelled by the Purchaser as hereinbefore provided, the question at issue shall be submitted to arbitration. In such case the party aggrieved or moving in the matter shall give to the other party written notice of its desire to have an arbitration, in which it shall state generally its grievance and name an arbitrator, and the other party thereupon shall name an arbitrator within ten (10) days after the receipt of such notice, and in case of failure to do so, the moving party may

appoint the second arbitrator. The two arbitrators thus appointed (in either manner) shall select a third, and the board of arbitration thus constituted shall thereupon proceed to determine the matter in dispute, and the decision of any two (Including the cost of the arbitration) shall be final and conclusive on both parties as to all questions of fact involved in such arbitration. It is understood that all arbitrators appointed hereunder shall be persons who are not connected in any manner with either of the parties hereto or interested, directly or indirectly, in any matter or thing provided for or growing out of this agreement,

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except and in so far as may be consistent with their duties as arbitrators hereunder.

NINTH: Neither party shall be held liable for damage arising from failure to deliver or to receive anti-knock compound hereunder to the extent that it may be prevented by war or insurrections, riots, fires, floods, strikes, lockouts, differences with workmen, accidents to plants of either party or by other delays or hindrances beyond their reasonable control.

TENTH: It is expressly agreed that the deliveries of anti-knock compound hereunder shall be made either to the Purchaser, or by its direction to any corporation owned, affiliated with, or controled by it, and that any and all rights and interests possessed by the Purchaser hereunder in this agreement or any of the provisions thereof, shall inure, if it so desires, to the benefit of any such corporation.

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WITNESS the hands and seals of the parties hereto.

E. I. DUPONT de NEMOURS &  
COMPANY

By:

Irene duPont

.....  
President

Attest:

C. Copeland

.....  
Secretary

GENERAL MOTORS CORPO-  
RATION

By:

P. S. duPont

.....  
President

Attest:

John T. Ardis

.....  
Asst. Secretary



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COPY

Bill of Sale from General Motors Chemical Co. to  
Ethyl Gasoline Corporation

KNOW ALL MEN BY THESE PRESENTS, that GENERAL MOTORS CHEMICAL COMPANY, a corporation organized and existing under the laws of the State of Delaware, of the first part, hereinafter referred to as "Vendor", in consideration of the sum of Ten Dollars (\$10.00), and other valuable considerations to it in hand paid by ETHYL GASOLINE CORPORATION, a corporation organized and existing under the laws of the State of Delaware, of the second part, hereinafter referred to as "Vendee", receipt whereof is hereby acknowledged, has bargained, sold, conveyed, transferred, assigned and delivered, and by these presents does hereby bargain, sell, convey, transfer, assign and deliver unto the said Vendee all of the Vendor's physical property and assets of whatsoever kind, nature and description, and wheresoever situate, including the good will of its business and all of its trademarks, trade names and brands and all of its machinery, tools and appliances, and all of its raw materials, manufactured product and partially manufactured product, wheresoever situate, together with all its right, title and interest in and to all outstanding contracts with the Standard Oil Company of Indiana, the Standard Oil Company of New Jersey, the Standard Oil Company of Louisiana, the Refiners Oil Company, of Ohio, the Gulf Refining Company and the Waverly Oil Company (Pittsburgh) for the sale to them of anti-knock compounds or mixtures; excluding herefrom, however, all accounts and bills receivable together with all cash in bank or on hand.

To have and to hold all and singular the said property and property rights unto the said Vendee, its successors and assigns, absolutely, to its and their own use and behoof forever.

It is understood that any contract of the Vendor now existing that is not legally assignable without the consent of the other party or parties thereto is hereby sold and assigned subject to the assent of such other party or parties to such assignment, and in the event that any such other party or parties shall not assent to the sale and assignment of any such contract, the Vendor shall and does hereby agree to perform or cause to be performed the said contract for the use and benefit of the Vendee, but at the sole cost and expense of the Vendee, and all moneys due or thereafter becoming due thereon shall belong to said Vendee.

Vendee hereby agrees as part of the consideration for the sale of the property and rights sold hereunder to assume and discharge all obligation of the Vendor in respect of contracts assigned to the Vendee hereunder.

Vendor for itself, its successors and assigns, hereby covenants and agrees with the Vendee, its successors and assigns, that upon the request but at the cost of the Vendee it will execute any and all such further assurances as shall reasonably be required for vesting in the Vendee, its successors and assigns, the property and rights hereby sold, and giving to it and them the full benefit of this conveyance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in duplicate by their respective officers thereunto duly authorized, and their corporate seals to be hereto affixed this 28th day of August, 1924.

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GENERAL MOTORS CHEMICAL COMPANY

By: Thomas Midgley, Jr. (S)  
Vice President

Attest:

Merrill (S)  
Secretary

ETHYL GASOLINE CORPORATION

By: A. M. Maxwell (S)  
Vice President

Attest:

A. E. Mittnacht (S)  
Secretary

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NOTE: At upper right is written "Exhibit B2".

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GENERAL MOTORS CORPORATION

Department of Publicity

New York

Detroit

Aug. 15

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ETHYL GASOLINE CORPORATION ORGANIZED

(FOR RELEASE, THURSDAY, AUGUST 21, 1924)

Walter C. Teagle, President, Standard Oil Co. of New Jersey, and Alfred P. Sloan, Jr., President, General Motors Corporation, announced today the organization, under the laws of Delaware, of the Ethyl Gasoline Corporation, a \$5,000,000 concern in which their respective companies are equal shareholders. The new Company will take over the promotion and sale of ethyl fluid, which has in the past been handled by the General Motors Chemical Co., and will continue the marketing policies of that Company.

The distribution of ethyl fluid will not in any way be confined to the Standard Oil Co. of New Jersey, or to any other single company or group of companies; the policy and purpose will be to furnish it generally and on equal terms to all of the responsible gasoline marketing organizations, subject only to the limited exclusive contracts originally made by the General Motors Chemical Co. for the purpose of introducing the new product to the trade.

This association of the General Motors and the Standard Oil of New Jersey marks the culmination of years of research and experimental work, conducted independently but with rather free cooperation between the parties, in the effort to find a commercially satisfactory and feasible



method of controlling the combustion characteristics of gasoline so as to avoid the detonation, or "knock", which is experienced in automobile engines under extreme load or adverse weather conditions, or because of carbon accumulation or slight mechanical irregularities.

The credit for initiating this research work, as well as for first reaching a satisfactory conclusion thereof, belongs to C. F. Kettering and his associates in the General Motors Corporation; and Thomas Midgley, Jr., Vice-President of the General Motors Chemical Co., who was awarded the Nichols Medal of the American Chemical Society for 1922 in recognition of his personal contributions to this achievement. The research work of the Standard Oil Co. of New Jersey on the same problem resulted in the development of commercially essential improvements in the manufacture of the material which General Motors had found to be satisfactory for the purpose, thus opening the way to the immediate expansion of the business on an economical basis. It is an interesting coincidence that Dr. Kraus, of Brown University, and of the consulting staff of the Standard Oil Company's Research Laboratories, was awarded the Nichols Medal of the American Chemical Society in 1923 for his contributions to the difficult and little known field of metallo-organic chemistry, upon which the ultimate process of manufacture of the ethyl fluid was based.

The experience, research staffs, patents and trade connections of both the General Motors Corporation and Standard Oil Co. of New Jersey will be available to the new Company, and it is believed that this will make possible, in the most economical and efficient manner, the expansion of the ethylized gasoline business to cover all countries in which gasoline is used in substantial quantities for motor fuel.

Aside from the strictly commercial aspects of the new association, both parties feel that the relationship thereby created will be of benefit to their respective industries in dealing with the problem of the relation between quality of gasoline and engine design which have arisen out of the unprecedented expansion of the automobile industry.

The newly organized Ethyl Gasoline Corporation takes over the present business of the General Motors Chemical Co., and will immediately undertake to increase the production and enlarge the distribution of ethyl fluid. It is confidently expected that by the year 1925 there will be available an adequate supply of the material to meet the demands of the United States.

The directors of the new Corporation are:

W. C. Teagle	Alfred P. Sloan, Jr.
J. A. Moffett, Jr.	Charles F. Kettering
E. M. Clark	Donaldson Brown
F. A. Howard	Thomas Midgley, Jr.
A. M. Maxwell	John Thomas Smith

The officers are:

Charles F. Kettering, President  
 F. A. Howard, First Vice-President  
 Thomas Midgley, Jr., Second Vice-President and  
 General Manager  
 A. M. Maxwell, Third Vice-President and  
 Sales Manager  
~~Donaldson Brown, Secretary and Treasurer~~ A. E. Mitnacht  
 Chester O. Swain, General Counsel

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The offices of the Ethyl Gasoline Corporation are in the Cunard Building, 25 Broadway, New York City.

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NOTE: At first page upper right is written "Bowling Green 6428"; in the list of prospective officers on the second page, the words "Donaldson Brown, Secretary and Treasurer" are struck in pencil following which is written "A. E. Mitnacht"; italics indicate handwriting.

4434

MEMORANDUM OF CONFERENCE

between

MESSRS. P. S. duPONT, IRENEE duPONT and

W. F. HARRINGTON

of E. I. duPONT de NEMOURS & COMPANY

and

MESSRS. A. P. SLOAN, JR. and T. MIDGLEY, JR., of the

GENERAL MOTORS CHEMICAL CO.

Subject: TETRA ETHYL LEAD.

New York City, August 11, 1924.

FIRST: The present agreement between the General Motors Chemical Company and the duPont Company requires the delivery of 1,100,000 lbs. of tetra ethyl lead at \$2.00 per pound. The delivery of same is approximately half completed and it is expected that completion of this order will take place on or about November 30th.

SECOND: It is proposed at this time to enter into a contract between the Ethyl Gasoline Company and the duPont Company upon the following basis:

(a) The quantity to be the output of the plant operating on the bromide process, hereafter referred to as the Bromide Plant, for the balance of 1924, after the expiration of the present agreement, and the first six months of 1925.

(b) The price is to be \$1.66 per pound tetra ethyl lead F.O.B. Carneys Point, N.J., which was determined



as the best cost price to date of pure tetra ethyl lead for any one month, exclusive of amortization.

(c) The material to be delivered shall be 95% or over pure tetra ethyl lead and shall be paid for on the basis of the tetra ethyl lead content.

(d) It is understood that the duPont Company will, as soon as practicable, start the erection of a plant using ethyl chloride as the ethylating medium and having a capacity of 1,000 gallons of tetra ethyl lead per day and upon the completion of this plant will operate and sell to the Ethyl Gasoline Company tetra ethyl lead at the same price and conditions as from the Bromine Plant.

(e) The quantities to be delivered by this plant shall be solely at the discretion of the duPont Company up to July 1st, 1925 but shall be not less than 1,000 gallons per day thereafter up to September 1st, 1925, at which time negotiations will be entered into concerning price, etc., and future quantities.

—2—

(f) Between March 1st and July 1st, the total tetra ethyl lead delivered by the duPont Company shall be not less than seven hundred (700) gallons per day.

(g) Such contract as may be entered into between the Ethyl Gasoline Company and the duPont Company is to be guaranteed by the General Motors Corporation and the Standard Oil Co. of N. J.

NOTE: Across top of first page is written "Ethyl Gasoline Co. Contracts - Du Pont de Nemours" followed by three illegible sets of initials; underlining on first page is in pencil; at lower right on first page is a routing stamp; the initials contained in this routing stamp are obscure; a check mark appears in the first and seventh spaces provided in the routing slip.

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*October*

AGREEMENT, entered into this 10th day of ~~September~~, 1924, between E. I. duPONT de NEMOURS and COMPANY, a corporation of the State of Delaware, hereinafter referred to as the "Seller", and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the "Buyer", WITNESSETH:

WHEREAS, the SELLER is now engaged in the manufacture of tetra-ethyl lead hereinafter sometimes referred to as "lead", under a process known as the "Bromine Process", pursuant to the terms of a contract with General Motors Corporation dated October 6, 1922; and

WHEREAS, said contract was amended by a letter dated January 12th, 1924, providing for the purchase of one million one hundred thousand (1,100,000) pounds of said lead from February 1st, 1924, to be supplied at the rate of at least

2,600 pounds per working day from February 1st, 1924, to July 1st, 1924;

5,200 pounds per working day from July 1st, 1924, to August 15, 1924;

7,800 pounds per working day from August 15th, 1924, to date of completion of delivery;

and

WHEREAS, said agreement has been assigned by the General Motors Corporation to the BUYER with the consent of the SELLER, and the BUYER is desirous of purchasing the entire tetra-ethyl lead production of the SELLER upon the terms and conditions hereinafter set forth,

Now, THEREFORE, in consideration of the premises, the covenants and agreements herein contained and other valuable considerations, it is hereby agreed by and between the parties hereto as follows:

1. The SELLER shall continue to deliver to the BUYER and the BUYER agrees to accept and pay for at the price of two dollars (\$2.00) a pound, the balance of approximately four hundred thousand pounds (400,000) of lead due under and according to the said agreement dated October 6, 1922, as modified, and thereupon the

—2—

said agreement shall terminate.

In addition to said amount, upon the completion of said deliveries, the BUYER agrees to purchase and pay for at the price of one and 66/100ths Dollars (\$1.66) a pound, f. o. b. SELLER's plant, the entire production of the SELLER, not to exceed three hundred fifty-three thousand (353,000) pounds per month of said 100% tetra-ethyl lead, to be delivered to it, however, prior to April 15th, 1925.

2. The SELLER further agrees to erect a plant at Deepwater, New Jersey, for the manufacture of tetra-ethyl lead under what is known as the "Ethyl Chloride Process", with sufficient equipment and capacity to enable it to produce therein between April 15th, 1925, and April 15th, 1926, not less than four million (4,000,000) pounds of said lead.

3. The SELLER agrees to sell and deliver and the BUYER agrees to purchase and pay for the entire production of said plant during said period, not, however, exceeding five million (5,000,000) pounds, at the price of one and 17/100ths dollars (\$1.17) a pound, of 100% tetra-ethyl lead, deliverable f. o. b. SELLER's plant, commencing with the month  
1925.

April 15th, 1925, to May 15th, ~~1925~~, in monthly instalments

of not less than three hundred thirty-three thousand three hundred thirty-four (333,334) pounds, and not more than four hundred fifty-eight thousand (458,000) pounds.

Payments shall be made against invoices on or before the 10th day of the month following the calendar month in which deliveries are made.

All lead delivered hereunder shall be of a quality and purity at least equal to that heretofore supplied by the SELLER.

4. If SELLER shall fail to deliver the monthly minimum requirement in respect of any calendar month beginning May, 1925, and ending March, 1926, and by reason of such failure

—3—

the BUYER shall have suffered or incurred substantial loss or damage, the SELLER agrees to pay the BUYER as liquidated damages in full of said loss or damage the sum of twenty-five cents (25¢) a pound for each pound of said lead less than three hundred thirty-three thousand three hundred thirty-four (333,334) pounds not so delivered in said monthly period. Payments for such damage are to be made on or before the 10th day of the month following the month of the default.

5. It is intended that the ethyl chloride plant to be erected by the SELLER shall have sufficient production by April 15th, 1925, to enable the SELLER to fulfill its total obligations hereunder, and the SELLER agrees upon receipt of written notice from the BUYER on or before March 15th, 1925, to discontinue as of April 15th, 1925, the operation of its Bromine plant, and thereupon the BUYER shall purchase from the SELLER at cost all stocks of Bromine on hand on



such date and shall assume all of the SELLER's liability with reference to outstanding commitments at the time of receipt of said notice, it being understood and agreed however that should the SELLER, at the request of the BUYER, or otherwise, resume the operation of its Bromine plant, then all such commitments shall be reassigned by the BUYER to the SELLER at the SELLER's request.

6. On or before October 15th, 1925, the SELLER shall advise the BUYER in writing concerning prices and terms for tetra-ethyl lead manufactured in its plants, to be effective on and after April 15th, 1926, and within thirty days from the receipt by the BUYER of such information regarding said prices and terms, the BUYER shall advise the SELLER whether it desires to enter into a new contract for further purchases of tetra-ethyl lead, and if such prices and terms are satisfactory to the BUYER, the SELLER shall continue to sell, and the BUYER shall continue to buy, the entire production of the SELLER, in accordance therewith, for such a period of time as shall then be agreed upon.

—4—

7. Neither the BUYER nor the SELLER shall be liable to the other for any failure to deliver or accept tetra-ethyl lead, where such failure shall be caused by fire, inundations, acts of God or the public enemy; and, in the event of delays in performance due to any such causes, performance hereunder shall be suspended during the continuance of such delay, but the party affected thereby shall use due diligence to remove the same and resume performance hereunder as soon as the causes for any such delay have ceased to operate. In any such event, however, any such delay shall not affect the obligation of the parties hereto to deliver or accept the maximum quantities provided for under this

agreement; but the time during which this agreement shall remain in force shall be extended by such a period of time as shall equal such delay in performance.

8. The SELLER agrees that it will not manufacture tetra-ethyl lead for any other person, firm or corporation and will not during the continuance of this agreement manufacture or sell any anti knock compound for or on account of any person other than the BUYER, whether of a like or similar nature without the consent of the BUYER. Further, the SELLER agrees that if at any time during the term of

F.A.H.  
I du P

*or acquires an invention relating to* this agreement it invents, originates or develops an anti knock compound or any apparatus, device or other matter or thing in anywise connected with or relating to the manufacture of an anti knock compound and which may be capable of being patented in the United States of America or elsewhere, that it will take all necessary steps so to do, and will promptly assign all applications for such patents to the BUYER upon its request. It also agrees to keep the BUYER fully advised of all developments made by it in connection with any such invention and will accept the advice and assistance of the Patent Department of the BUYER in connection with any questions relating to the patent situation surrounding any such invention. The BUYER agrees to

—5—

pay the cost of filing and maintaining any such patent so acquired or applied for by the SELLER.

IN WITNESS WHEREOF, the parties hereto, by their officers duly authorized, have caused this agreement to be

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executed and their respective corporate seals to be hereunto  
affixed on the day and year first above written.

E. I. duPONT de NEMOURS and COMPANY

By:

*Irénée du Pont*  
President.

Attest:

*C Copeland*  
Secretary.

ETHYL GASOLINE CORPORATION

By:

*Frank A Howard*  
vice-President.

Attest:

*K.  
V. P. Jr.*

*A E Mittnacht*  
Secretary.

In consideration of the execution of the foregoing contract by E. I. duPONT de NEMOURS and COMPANY, the undersigned being the owners of all of the capital stock of the ETHYL GASOLINE CORPORATION, do hereby guarantee that the foregoing Agreement shall be fully and faithfully

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performed by the ETHYL GASOLINE CORPORATION, in accordance with the terms thereof.

STANDARD OIL COMPANY (NEW JERSEY)

By *x J. A. Moffett*  
[STAMP] Vice-President

*I. W. P. Jr.*  
OK  
FAH

Attest: *C T White*  
[STAMP] SECRETARY

GENERAL MOTORS CORPORATION

By *Alfred Sloan Jr.*  
President

OK  
JTS

Attest: *C D Hartman Jr*  
Ass't. Secretary

NOTE: Deletions and interlineations in Agreement are by hand. On fifth page of Agreement appear corporate seals of E. I. duPont de Nemours & Company, Ethyl Gasoline Corporation, Standard Oil Company and General Motors Corporation. "E" before signature of "Irene duPont" is by hand. Italics indicate handwriting.



4443

MEMORANDUM OF MEETING OF BOARD OF DIRECTORS OF  
ETHYL GASOLINE CORP. HELD IN THE OFFICE OF THE  
STANDARD OIL Co., 26 BROADWAY, Dec. 23, 1924

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I attended the meeting of the Directors at the request of Mr. Alfred Sloan who stated that both the Standard Oil and the General Motors personnel of the Ethyl Gasoline Corporation desired that I take a place on their Board. At the opening of the meeting resignation of Mr. Smith was accepted and I was elected a Director. The points of discussion at the meeting (beginning about 10:30 A.M.) which seemed to me of sufficient importance to record as follows:—

A lengthy discussion of the substitute for tetraethyl lead discovered by Dr. Bosch, of the National Anilin Soda Fabrik of Germany. During the meeting a cable was read indicating that a patent had been applied for by the Badische Co. on iron carbonyl; that Kettering stated he was sure that was the substance that had been shown him; that he found tests had been run on nickel carbonyl and iron carbonyl had been discussed as a possible anti-knock material a year or two ago; that it had been set aside because it was doubtful if the material could be produced commercially at a reasonable figure.

Discussing the patent protection it was thought likely that the general patents owned by the Ethyl Gas would not hold for all anti-knock materials. Opinion of an eminent patent attorney was read indicating that to be the case. The particular patent on nickel carbonyl covered other nickel salts but apparently did not cover other carbonyls. They would try to get this patent extended for that purpose. In the meantime a fight on the Badische patent on iron carbonyl would probably delay its use for a protracted period. It was felt that it would be desirable, however, to obtain patent on iron carbonyl from

—2—

the Badische Company if it could be arranged.

Kettering advised that the nitrogen fixation laboratories at Washington had at their request prepared some iron carbonyl and that it had been tested at Dayton disclosing that it was approximately  $\frac{1}{3}$  as efficient as tetraethyl lead, not quite so good as the 40% efficiency indicated at Ludwigs-haven.

At my suggestion the cable replying to Dr. Bosch was worded in a way that indicated lack of urgent interest and that the matter of negotiating with Badische had been referred to the du Pont Co. The object of this was so that we could get a better deal for the Ethyl Gas Corporation on the one hand and give du Pont a better opportunity to deal with Badische on other questions.

The question of a bromine supply was discussed. Kettering showed photographs and maps of the French war plant in Tunis. It was the consensus of the Board that owing to the import duty and the delay in starting up a works at such a great distance it would be better to go ahead at once with the proposition of extracting bromine from sea water along the lines of the experiment originated in the laboratory at Dayton and checked by the du Pont laboratory. It was unanimously agreed that the best way of handling the project would be to start a plant of reasonable size without wasting time for a semi-works scale demonstration; that we had better build a plant to produce about 100,000 lbs. of bromine per month; that a rough throw-down guess of the cost of such a plant built on the Atlantic Coast would be \$150,000. I told them that this rough guess might be materially overrun and that quite likely the operation would not work for the reason that we had not tried floating out the tri-brom-anilin on a large scale but that it would separate in a flask in the laboratory if shaken.

Midgley said that the best guess of those in the du Pont Co. with whom he had consulted was that there were two chances out of three that the process would work. I suggested that the du Pont Co. undertake to build the plant at cost plus a fee of \$20,000 to cover engineering expense, purchasing expenses and the consultation of such of our experts as was needed until the time when a trial of the plant demonstrated either that it would work or would not work. In the former case we could then get together and arrange how would be the best method of operating the plant; i.e. whether du Pont Co. should acquire it and sell bromine at a fixed price or whether it should be operated for the account of Ethyl Gasoline Corp. on some sort of commission basis. That seemed satisfactory to the Directors and it was arranged that a committee, composed of Kettering, Sloan, Howard and I, draft a letter to the du Pont Co. outlining the nature of the arrangement.

The Standard Oil representatives produced a memorandum of an agreement dated September 29, 1924, being a letter from Mr. Howard to the Ethyl Gasoline Corp. reciting that they were building a plant of about 100 gallons per day tetraethyl lead at Bayway which they were doing for the account of and would operate it for the account of the Ethyl Gasoline Corp. charging \$2 per lb. for ethyl lead made until such time as the profit over manufacturing cost equalled the lay-out for plant and thereafter would bill the product at cost.

They stated that the cost of that project up to the time of its discontinuance on account of the accident was as follows:—

Capital cost of plant .....	\$58,000.	
Cost of operating .....	35,000.	
Cost of damage suits .....	100,000.	
Total .....	<u>\$193,000.</u>	
Lead produced 34,000 lbs. at \$2 —		\$68,000.
Net Loss —		125,000.

Mr. Howard said that on attempting to obtain payment some question was brought up as to whether Ethyl Gas was responsible. Kettering said he thought that the Ethyl Gas did not have any responsibility; it was a matter for the Standard Oil to take care of.

I stated that it seemed to me that as the contract was purely an agency for the Ethyl Gas they were responsible for the acts of their agent unless there had been gross carelessness; that we could hardly take that position and that it seemed to me right and proper that the Ethyl Gas should pay the entire bill. This was agreed to by all the Directors present who voted to that effect.

. IRÉNÉE DU PONT

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NOTE: At lower right on each page is written "GMC 972."



4447

March 28, 1925.

Adjustment of Lead Price.

Mr. Irene du Pont,  
E. I. du Pont de Nemours & Co.,  
Wilmington, Del.

My dear Mr. du Pont:

At the last Board Meeting of the Ethyl Corp., the matter of adjustment of our contract on the \$1.66 lead was brought up by Mr. Midgley, and the circumstances fully gone into. After hearing the pro's and con's of the situation, the Board decided that the matter was much too complicated to be dealt with on its merits by the Board of Directors, and Mr. Midgley and I were instructed, therefore, to arrange the matter with you according to our best judgment.

After thoroughly discussing the situation, we have arrived at the conclusion that there is no proper way to deal with the question save to present to you very briefly the reasons which may be urged against the propriety of the Ethyl Corp.'s deviating from its contract with the du Pont Co., and, this having been done, to accept your decision as final. Mr. Midgley has accordingly asked that I write you this letter.

It seems to be agreed by every one concerned that the du Pont Co. has no clearly enforceable legal claim for an adjustment. We are therefore discussing the situation simply from the standpoint of its merits as a matter of fair business dealing. From this angle, the facts to be urged in support of the view that the Ethyl Corp. should not make any adjustment are as follows:

1. At the time when the contract of Oct. 10th was negotiated, the figure of \$1.66 per pound was accepted by

the Ethyl Corp. on the statement of the du Pont representative (Mr. Harrington) as being the approximate cost of production of tetraethyl lead in the bromine plant.

2. It was not contemplated by either party at that time that there would be any substantial profit to the du Pont Company in deliveries of lead from its bromine plant previous to April 15th at the \$1.66 price.

3. It was contemplated that the price of \$1.66 per pound for lead produced from the chloride plant would produce a substantial profit to the du Pont Co.

—2—

4. The date at which deliveries of the lead, under the contract of Oct. 10th, from the chlorine plant at the price of \$1.17 per pound was to begin was advanced to April 15th from an earlier date first fixed by agreement between the parties, to permit the du Pont Co., if it were able by extra efforts to get its chloride plant in operation sooner than might be conservatively estimated, to thereby gain an additional profit, represented by the difference between \$1.17 and \$1.66 per pound.

5. It was urged by the Du Pont Co. as an argument in the negotiation of the said contract that a benefit accruing to the Ethyl Corp. from this entire arrangement would be that the du Pont Co. would use every effort to get its chloride plant in operation at the earliest moment and gain the benefit of the lower manufacturing cost of the chloride operation, and that thereby bromine would be conserved because deliveries would come from the chlorine plant and bromine would thereby be conserved.

On the basis of the foregoing, it may be urged in behalf of the Ethyl Corp., therefore, that while it expected and

hoped to benefit by conservation of bromine through the closing of the bromine plant at the earliest moment, the consideration to the du Pont Co. for this was the acceptance by the Ethyl Corp. of a price of \$1.66 per pound, instead of \$1.17 per pound, for these antecedent deliveries from the chlorine plant, and the further consideration of the extension to the period for the beginning of deliveries at \$1.17 per pound from April 1st, the date first agreed upon, to April 15th.

This being the situation at the time of the negotiation of the contract and the considerations in the minds of the parties at that time, the situation has since changed to the following extent:

1. From the standpoint of the du Pont Co., it proved to be possible to produce lead in the bromine plant at a price considerably less than \$1.66 per pound, thus affording a substantial profit from such deliveries.

2. The unforeseen accidents in the chlorine plant have prevented the production from that plant of the amount of lead which the du Pont Co. had hoped and expected to be able to produce from the plant prior to April 15th.

From the standpoint of the Ethyl Corp., the situation has likewise changed to the following extent:

—3—

1. The poison difficulties at the Bayway plant resulted in the temporary cessation of the marketing of lead in large territories, thus causing accumulation of lead stocks.

2. The withdrawal of all small ethylizers from service, following the conclusion that they were not a safe method for distributing the product, has resulted in a still further

accumulation of lead stocks by the Ethyl Corp., which accumulation is still going on at a rapid rate. In other words, the Ethyl Corp. has been for some months, and is yet, unable to dispose of its lead at any rate approaching that at which deliveries are made by the du Pont Co.

It therefore appears that, while owing to conditions over which neither party has had any control it would have been to the advantage of the du Pont Co. to have continued uninterruptedly to produce lead from its bromine plant and its failure to do so, out of consideration for the interests of the Ethyl Corp., resulted in some loss to the du Pont Co., this is a loss of profit which neither party contemplated at the beginning the du Pont Co. would make. On the other hand, the du Pont Co. is suffering a loss of profits which the parties did contemplate the du Pont Co. would make, through the failure of the chloride plant to deliver the quantity of lead which both parties hoped and expected it would deliver prior to April 15th.

Owing to conditions over which neither party has had any control, the Ethyl Corp. at the same time finds itself with a stock of over \$1,000,000. worth of lead on hand and deliveries still coming in very much more rapidly than the goods can be marketed at present. This situation was not contemplated by the Ethyl Corp., but, on the contrary, the Ethyl Corp. had hoped and expected to be able to market immediately and at a profit to itself any lead supplied to it by the du Pont Co. prior to April 15th, even though such lead bore a price of \$1.66 per pound.

With the foregoing statement of the matter, we are entirely content to leave the decision in your hands, with entire confidence in your reaching a fair conclusion.

If you will advise Mr. Midgley what your conclusion is, he will either execute the adjustment contract which has



been tentatively arranged between him and your officials or dismiss the matter, as the case may be.

~~4~~

With best regards and the hope that you enjoyed your vacation in the South, I remain

Yours very truly,

FRANK A. HOWARD.

hv

Copies to: Mr. Teagle  
Mr. Sloan  
Mr. Midgley

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NOTE: At upper right of first page appear illegible initials (possibly "AR"); to left of date line appear illegible initials; to right of address is stamped "Received Mar. 31, 1925—A. P. Sloan, Jr."; underlining on first page is in pencil; on fourth page the number following the word "Page" has been obliterated and "4" has been written in.

4452

March 28, 1925.

Mr. Ireneé duPont, President,  
E. I. DuPont deNemours & Company,  
Wilmington, Delaware.

My dear Ireneé:—

I appreciate that this letter will come on your desk when it is piled high with things that have accumulated during your absence, therefore you can set it aside and take it up whenever an opportunity presents itself.

The object of this letter is to deal with the organization of the Ethyl Gasoline Corporation as it continues the letter I wrote Lammot a few days ago, copy of which I sent you.

I believe I pointed out in that letter that I have felt from the beginning of the formation of this Company; in fact, I felt a year before it was formed, that we would make progress much more rapidly and more constructively if we had more of a business side to the development. Mr. Kettering, however, was violently opposed to any such thing. When the Ethyl Gasoline Corporation was actually formed, Mr. Brown and I both raised the same question with our associates, the Standard Oil Company of New Jersey, and pointed out to them that we felt it was a great mistake to leave the management of the property so largely in the hands of Midglèy who is entirely inexperienced in organization matters. We, however, recognize his ability from the technical standpoint. Without appearing more, or less arbitrary, we could not get our idea across and I therefore thought it best to go ahead, recognizing that the point we made would either wash out or it would become so necessary that it would have to be recognized. I have felt for

several months past that I personally was subject to more or less criticism for letting the matter remain as it is and, to make a long story short, in an interview I had with Mr. Teagle this week I was prepared to insist that something be done but found that he had come to the same conclusion so we agreed, without much discussion, that Mr. Kettering and Mr. Howard—President and Vice President respectively—should resign and that an active President should be appointed of proper ability, administrative and otherwise, to deal with the problems that confront the Corporation, in a constructive way.

—2—

The question then came to appointing a man and it just so happened, through force of circumstances which I need not to annoy you with, we have a man who has headed up our Legal and Real Estate Departments in Detroit. He is a lawyer by profession but a good business man as well. He has the confidence of our organization and I feel sure that when it comes to sound judgment and an orderly method of handling things, recognition of all the factors that enter into a decision, he will amply fill the bill. I discussed this matter with Mr. Teagle and subsequently arranged for Mr. Webb to meet Mr. Teagle, also Mr. Howard. Mr. Howard feels that Mr. Webb has a training that should qualify him for the job. Mr. Teagle feels likewise except that he has a natural reservation for any man who is legally trained entering into a proposition requiring more or less business administration. That, of course, is a point that we recognize.

Mr. Teagle suggested that we tentatively accept Mr. Webb as the right man for the place; that we recognize the vital necessity of having a man and that we ask Mr. Webb before he starts in, to study the situation and make the

directors a report as to the operations of the Company; what he recommends; what his viewpoint is as to the different matters that are up before the Corporation. In other words, give us a complete picture. I think Mr. Teagle's idea is that it would be well to have this anyway and that as a basis of the report we can judge best whether Mr. Webb's viewpoints are in harmony with our own.

This certainly will do no harm and although Mr. Teagle will accept our recommendation, I would much rather follow along the lines of Mr. Teagle's position as he is a partner in the enterprise and although he said that whatever I did would be satisfactory, I am very anxious to have just the right man for the place and do not want to make a mistake and the mere fact that he is a General Motors man makes no difference to me. All I want is the best man from the stockholders' standpoint.

I want you to know the above for two reasons:—First, because we have taken on a matter which I feel sure you have realized should have had attention before and, second, because Mr. Webb will call upon you in due course and I would appreciate it if you would discuss with him frankly with all the cards face up on the table, exactly what you think as to the whole situation so that he can get the benefit of all the atmosphere preparatory to submitting his recommendations.

With very best regards,

Very truly yours,

*Alfred P. Sloan, Jr.*

B

APSJr./K

c/c Mr. P. S. duPont

Mr. Lamot dupont



**4455**

NOTE: At upper middle of first page is drawn a check mark; at lower left on both pages is written "GMC 1625"; across bottom of both pages is stamped "Return to Executive Committee Room 9069"; diagonally across both pages is stamped "Copy"; following the name of Mr. Lamot du Pont at the bottom of the second page is drawn a small check mark; italics indicate handwriting.

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**2175**

4456

COPIES TO:—MR. ALBERT SLOAN, JR.

MR. W. F. HARRINGTON

April 3, 1925.

Mr. Frank Howard,  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

Dear Mr. Howard:—

I have delayed replying to your letter of March 28th because of the accumulation of work awaiting me on my return from what was for me a rather protracted holiday. Although it may have no effect on the propriety of adjustment of time of delivery of tetraethyl lead which we abstained from shipping you at the request of the Ethyl Gas Corp. in January, I would like to first point out that your paragraph marked 1, on page 1, is a little misleading. The \$1.66 was arrived at, and in fact was the best cost for any month up to the date of our October contract. It was not supposed to be in any sense a forecast of what tetraethyl lead would cost in the bromine plant but was simply set up as a figure which we ought to be able to duplicate and with effort improved on.

Similarly, your paragraph marked 2 is misleading because the question of whether or not we would get a profit was not discussed except that it was admitted that if we could do better we would get a profit and that was an incentive for great effort.

The extension of the date from April 1st to 15th, referred to in paragraph 4 on page 2, and again on the paragraph in the middle of page 2, was more or less of the nature

of a tolerance or allowance well within the limit of error of any forecast that could have been

—2—

made as to when the ethyl chloride plant could be put in full operation. Owing to the personal injuries it will have proven an insufficient time although in January it appeared to us to have been quite liberal but this was because we spared no expense of rushing work day and night to complete the plant, and actually I believe the cost was materially increased by the rather phenomenal speed in constructing this from piles to completion in twelve weeks' time.

All this, however, is immaterial in view of the fact that we are not asking to change the original contract in any particular. Apart from the contract we were asked to defer deliveries of material which we could make in January and would have made at a profit. We suggested that these deliveries be simply deferred and not cut out entirely, an eminently fair proposition to make. Owing to the fact that the Ethyl Gas executives were very busy and/or away, delay would have ensued detrimental to your interests if we had stood "pat" and waited for you to "come across." In our desire to be helpful to the "picture" we acted on your orders without getting approval for a deferment of the deliveries in question. It seems to me only equitable that you should have accepted our offer of deferment and not take advantage of our efforts to be of service to you.

It is, therefore, my judgment that you should accept delivery at \$1.66 per lb. of the amount of tetraethyl lead which we voluntarily abstained from making and shipping in January, and that, further, if owing to our misfortune at the ethyl chloride plant you are sufficiently short of ethyl lead so as to make a loss thereby, the amount up to that

accruing by reason of the lead not delivered in January, should not be assessed to us on the damage paragraph.

—3—

I will admit from a law point of view that probably you might get away with the contention that a signed and sealed contract cannot be changed except by a similarly official action and that, therefore, we could not successfully exact this adjustment at law. I am not competent to pass on that point but I will say that if we are dealt with unfairly in this particular case it will have to be of necessity a warning to not make a similar error in the future and as the companies will probably do large business together, it would be most unfortunate if either party started in to make money or save it at the other's expense. In other words, we will both make more in the long run by avoiding setting up technical defenses which are not in accord with justice.

Very truly yours,

IRÉNÉE DU PONT, President

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NOTE: Following the name of Mr. Albert Sloan, Jr. (sic) at upper right on first page appears a check mark; also at upper right appear the initials "AR"; two diagonal lines are drawn through the address; above the text of the letter on the first page is stamped "Received Apr. 4, 1925 — A. P. Sloan, Jr."; above the date "28th" on the first page appears a check mark.



4459

April 10, 1925.

Mr. Ireneé duPont, President,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

My dear Ireneé:—

I notice your letter of April 3rd addressed to Mr. Howard. This matter came up at a meeting of the Ethyl Gasoline Corporation which I attended. I was not in sympathy with the position that was taken and think it was largely due to a misunderstanding of the equities in the case and so far as I am concerned I believe your position is absolutely correct. I hope you will stick to it.

Due to my relations with the duPont Company and General Motors Corporation, I am quite handicapped in saying very much about these things, therefore until we get somebody to head up the institution the way we all want it to be headed up, we will have to get along the best we can.

Very truly yours,

APSJr./K

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NOTE: Across top of page is written "Ethyl Gas. Contracts—du Pont E. I. de Nemours & Co."; also at upper right appear the initials "AR"; above the date "3rd" is a check mark; at lower right is a routing stamp containing the initials "A. P. S.", "J. L. P.", "H. M. C.", "F. C. H.", "A. K. H.", "L. R. D.", "A. T. B." and an eighth initial which is obscure; check marks appear opposite the initials "A. P. S." and "A. T. B."

4460

Letterhead of  
ETHYL GASOLINE CORPORATION

NEW YORK

May 21, 1925

IN REPLY PLEASE REFER TO

Mr. Irene du Pont,  
E. I. du Pont de Nemours & Company,  
Wilmington, Del.

Dear Mr. du Pont:

On my return from Washington this morning, I have reviewed the cash position of the Company and find we require about \$800,000. within the next week to meet our current obligations and make some settlements that are contingent on immediate payment.

Mr. Sloan and Mr. Brown, as you know, are both out of the City and I am therefore writing you as the other member of our Board that represents the General Motors interest, asking you if you will kindly take such steps as may be necessary to obtain a loan of \$ 400,000. from the General Motors Corporation. This method of loaning us funds rather than buying additional stock has been the procedure on the last two occasions we required cash. The Standard Oil Company of New Jersey of course, furnish an equal amount and I am writing their Treasurer today in accordance with the attached copy of letter.

We have on hand this morning \$140,000. and our current debts are as follows:

4461

CURRENT DEBTS

du Pont—Lead delivered in May	\$ 103,000.
“ —Badische dibromide billed \$ 40,000.	
enroute 38,000.	78,000.
“ —Balance due S/S ETHYL	205,000.
Dow Chemical Co.—dibromide delivered in May	19,000.
Standard Oil Co. (N.J.)—Ethyl fluid returned in methylliters	20,000.
“ —Bayway accident	83,000.
Barton, Durstine & Osborn—Advertising	14,000.
Miscellaneous Accounts Payable	26,300.
	<hr/>
	\$ 548,300.

DOW SETTLEMENT

On dibromide contract with Ethyl Co. up to October 1, 1925.	\$ 100,000.
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—2—

DOW SETTLEMENT (continued)

For dibromide now on hand at Dows	\$19,000.
Complete settlement, sodium bromide contract with du Pont	30,000.
Complete settlement, chloride contract with du Pont	*70,000.
Chloride Dow has on hand	28,000.
	<hr/>
	\$247,000.
( *This figure may be \$75,000.) TOTAL	<hr/>
	\$795,300.

The first half of the above statement is self explanatory. In regard to that portion that relates to the Dow settlement, since my talk with you I came before the Board of Directors of the Dow Company and they practically agreed to accept the settlement previously discussed but stated their fiscal year ended May 31, 1925 and frankly said they were anxious to get the money before the end of the fiscal year. Inasmuch as you and the representatives of the Standard Oil Company have indicated your approval of the settlement of the three Dow contracts in which we are interested on the basis mentioned above, and as the Board of Directors of that Company attach some importance to the adjustment being made prior to May 31 and as part of their terms, I deem it advisable to meet their condition and pay them the cash by May 31, 1925. This is a complete settlement of all contracts with Dow, with the exception of this Company's contract direct with them for ethylene dibromide which contract provides for liquidated damages of \$192,000. to be paid Dow for the last four years of the contract but this is not due until October 1, 1925, and as indicated to you if we elect to proceed under the contract at that or some subsequent date which is to be definitely set up in our adjustment agreement, then such payment may be obviated. Furthermore in the event of resumption the Dow Company has indicated a willingness to incorporate in the settlement agreement a clause giving us proper credit for such payments. This credit feature is to be worked out more in detail at a meeting I have with their representative in Detroit Saturday morning.

The above payments include all raw materials we have on hand at Dayton, and in fact all items of liability except the undelivered portion of the Badische dibromide contract



4463

and one or two very small items,—and of course excepting your lead contract.

In regard to the lead contract, I appreciate and agree with your views regarding a prompt disposition of it but feel it is a question of such proportions that it should have the approval of our Board. As soon as Mr. Sloan and Mr. Brown return we intend to call a meeting of the Board at which time this question will be fully covered, and I feel confident to our mutual satisfaction. This meeting will undoubtedly take place not later than June 15th.

—3—

I expect to be in Detroit for a few days, but if you will communicate with the Ethyl Company office advising them of the arrangements you make for our obtaining this cash, it will be greatly appreciated.

Yours very truly,

ETHYL GASOLINE CORPORATION

*E. W. Webb*  
President.

JCM

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NOTE: Italics indicate handwriting.

2183

4464

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

EXECUTIVE OFFICES

May 22, 1925.

Mr. John J. Raskob,  
General Motors Corporation,  
224 W. 57th Street,  
New York City.

Dear John:—

In accordance with our telephone conversation of this morning, I am attaching Mr. Webb's letter of May 21st. Would like to record my approval of the Ethyl Gasoline Corp. borrowing the funds as recited therein from its two stockholders—General Motors and Standard Oil.

As the amounts due the du Pont Co. are in some particulars overdue, I am very glad that you can arrange to immediately send the necessary cash to Ethyl Gasoline Corp.

Very truly yours,

Irénée du Pont  
*Irénée du Pont*

COPY TO — Mr. E. W. Webb, President,  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

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NOTE: At upper right is stamped "Noted DB"; beneath letterhead is written "Don" followed by an illegible name (possibly "Brown"); through the address and following the name of the addressee appear check marks; italics indicate handwriting.

4465

COPY

E.I. du Pont de Nemours & Co.  
Wilmington, Del.

Executive Offices

June 9, 1925.

Mr. E. W. Webb, President,  
Ethyl Gasoline Corporation,  
25 Broadway,  
New York City.

Dear Mr. Webb:—

Attached is a bill rendered as a proposed settlement of our company of the liability of the Ethyl Gasoline Corp. on account of our contract for the production of some 5,000,000 lbs. tetraethyl lead by the ethyl chloride process. You will note that no prospective profit is included in that bill. This latter is omitted with the proviso that settlement of the matter will be made on or before July 1st coming.

This contract also provided that you are to take over from us stocks of bromine compounds left over from the production of tetraethyl lead by the ethyl bromide method. We cannot give exact figures on this pending a recovery of some of the liquors, but from the stocks on hand and an approximation of that in solution, we estimate there will be about 180,000 lbs. of a value of \$49,000.

I have carefully considered your suggestion that some arrangement of an optional nature be made under which should additional supplies of tetraethyl-lead be required we would be obligated to furnish it at a price to be determined at this time. I don't think this is at all desirable for the reason that we cannot forecast what the prices of such elements as lead and sodium will be at that future date nor

4466

have we data to show the degree of deterioration which may take place in the plant between its shut-down and re-opening. We can, however, agree that in making a price, should you desire it, we will not include in cost any item of amortization of the plant which has already been paid for, and I can assure you that if I am "at the helm" the company will pursue the same practice of offering fair prices for its work and will not take advantage of its customers because of a particularly urgent need by them.

Very truly yours,

IRENEE DU PONT, President

—2—

COPY

Loss incurred by E. I. du Pont de Nemours & Company in connection with manufacture of Tetra Ethyl Lead by the Chloride Process, due to cancellation by the Ethyl Gasoline Corporation of the contract for the purchase of Tetra Ethyl Lead. Nothing has been included in this invoice for loss of profits under said contract, which item is waived subject to full settlement on or before July 1st, 1925.

Loss on Plant:

Cost of Plant for manufacture of Tetra Ethyl Lead by the Chloride Process,	\$1,324,205.88
Less—Amortization included in Cost of Manufacture,	44,568.00
Difference	\$1,279,637.88
One-half cost of additional power equipment which was needed for operation of plant, and is no longer required,	84,582.00
	\$ 1,364,219.88

Loss due to Manufacturing Tetra Ethyl Lead by the Chloride Process:

Cost of production, including research accidents and expense of closing down,	721,346.34
Less—Receipts from Sales,	326,856.97
	394,489.37



Loss on Inventories and Contracts:

Ethyl Chloride	450,600#	(Cost)	83,715.44
Ethyl Chloride Drums	179	(Cost)	2,529.00
Alloy	43,496#	(Cost)	5,043.47
Nitrogen	35,800 Ft.	(Cost)	1,027.04

Total Cost of above materials which become  
your property on payment of this invoice, 92,314.95

Miscellaneous Supplies and Repairs Parts, 1,000.00

Estimated Loss on Pig Lead—1,239,502# 12,264.00

Cost of canceling orders for Pig Lead to be  
delivered after May 1, 1925, 1,380.00

Estimated Cost to cancel contract for Nitrogen 5,000.00

111,959.04  
1,870,668.29

Interest on Investment:

Interest on capital invested in the manufacture  
of Tetra Ethyl Lead by the Chloride Process  
to July 1, 1925.

51,806.74

Total, —

\$1,922,475.03

NOTE: Underlining on first page is in pencil; inter-  
woven with certain of the figures on the second page are  
pencilled designs; a circle appears around the figure  
"1,364,219.88".

4468

Letterhead of  
ETHYL GASOLINE CORPORATION

NEW YORK

June 12, 1925

Mr. Alfred P. Sloan, Jr.  
General Motors Export Corporation  
224 West 57th Street  
New York

Dear Sir:

One of the matters that is to be brought before the Board of Directors' meeting to be held on Tuesday, June 16, is the adjustment of the du Pont lead contract. We have had some negotiations with the du Pont Company and in order that you may be familiar with this subject, we attach hereto a copy of the last letter and statement from the du Pont Company, which is dated June 9.

Yours very truly,

ETHYL GASOLINE CORPORATION

A. E. Mittnacht

Secretary and Treasurer

AEM AK  
Encs

4469

NOTE: Across top of page is written "Ethyl Gas - Contracts - du Pont, E. I. de Nemours & Co." followed by illegible initials (possibly "AG"); to right of address is stamped "Received Jun. 12, 1925 - A. P. Sloan, Jr."; above the word "Letter" in the sixth line of the text appears a check mark; at lower right appears a routing stamp with the initials "A.P.S.", "J.L.P.", "H.M.C.", "F.C.H.", "A.K.H.", "L.R.B.", "A.T.B.", "W.F.A."; check marks appear opposite the initials "A.P.S." and "A.T.B."; italics indicate handwriting.

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■

2189

4470

ETHYL GASOLINE CORPORATION  
25 BROADWAY

NEW YORK June 27, 1925.

In reply please refer to E. W. Webb

Mr. Alfred P. Sloan, Jr.,  
224 West 57th Street,  
New York, N. Y.

Dear Mr. Sloan:

Confirming conversation with Mr. Brandt, beg to advise that Mr. Teagle requested that you and Mr. du Pont have luncheon with him on Monday, at 1 o'clock. I so informed Mr. du Pont, but he says that it will be very inconvenient for him to be in New York on Monday, and asked that his regrets be extended to Mr. Teagle.

Mr. du Pont expressed the hope that settlement terms will be reached on Monday, along the lines of his letter of June 9th and the statement attached thereto, copies of which were sent to you and other members of the Board on the 12th; he also said he would be in his office all day Monday and would be pleased to have you or Mr. Teagle communicate with him if any questions should arise regarding the terms of settlement, as he is very anxious to come to a definite understanding and, if possible, to get a check before the close of business on Tuesday, the 30th, which is the end of the fiscal year of his Company.

We have already informed the du Pont Company that we would reimburse them for the cost of building the chloride plant and any expenditures or obligations incurred in connection with it, or, I believe the precise language was that we should make them whole (excluding profits.).



I would like to call your attention to the material points upon which there might be some differences of opinion:

(1) Cost of Research.

You will observe from the du Pont statement that this item is included in "Cost of Production, including Research, Accidents and Expense of Closing Down, \$721,346.34". I am informed that the cost of research is quite a substantial portion of this amount, perhaps in the neighborhood of \$150,000. In reference to same, Mr. du Pont's language to me was: "A part of the cost of making tetraethyl lead by

—2—

the ethyl chloride method was determined by the exact method of procedure in the operation of the plant. This was done on a semi-works scale apparatus and at very considerable expense. This, in itself, of course, involved a great deal of laboratory work, which, in the aggregate, I refer to as 'Cost of Research'".

I understand that any amount which we pay the du Pont Company, whether for research or any other reimbursement, or, is agreed to be paid, will be subject to audit by us, and of course, if, by chance, any of the cost of research in connection with the bromide plant should be included in the chloride plant research, we will receive proper credit for same.

It seems to me that we should get from the du Pont Company at the time of settlement, assurances of placing us in possession of all facts and data relative to this work, so that we may have the benefit of any information or knowledge gained in such research work. This has not been suggested to the du Pont Company as a part of settlement, but I feel confident that Mr. du Pont will not raise the slightest

objection to giving us full and complete copies of or access to this data.

(2) Salvage Value of Plant.

I have discussed this aspect of the settlement with Mr. du Pont several times. In a letter to Mr. du Pont some time ago, I stated:

"Furthermore, this approval, except as noted, is based upon the plant becoming ours when we have made payments to you as indicated. Frankly, I do not know whether I am entirely correct in setting up this condition or not, but I naturally assume that if operation of the plant is not resumed during our present contract period and meanwhile it has been paid for by us in accordance with the terms of the understanding which we are now attempting to reach, then it would seem to me that the building, its equipment and appurtenances (excluding land) would be our property."

Mr. du Pont replied:

"It will not be practical for the Ethyl Gas Corporation to take title to the tangible property amortized by the contract, the plant being too closely intermingled with previously existent facilities, and not capable of operation apart from our other facilities. If it is your desire that the plant be scrapped at your expense, the proceeds of the scrapping should properly be yours under a general proposition that we shall be made whole. However, the economics of such a procedure are not good, which being the case, it seems essential that the physical property of unknown and somewhat doubtful value should be left in our hands, perhaps as a compensation for our having waived any profits on the contract."

—3—

He has further stated that at the time the contract was made the subject was then brought up by representatives of

this Corporation that inasmuch as the cost price of the lead was on the basis of amortizing the plant in one year, the plant should become ours at the expiration of the contract period; that he refused absolutely to subscribe to such suggestion; that the contract does not anywhere indicate that we should have title to the plant under any conditions.

However, upon my suggestion, he indicated not only willingness, but desire to reserve this plant for an extended period of time, for the manufacture, for us, of tetra ethyl lead or any other commodity to which it can be converted.

I also urged that because of the peculiar condition under which operation of the lead contract was suspended, and Mr. du Pont's statement that his Company did not ask or expect any profit, if the du Pont Company should finally not resume the manufacture of any commodity in it on our behalf, but should convert it to some other use, then we should be credited with its conversion value.

I believe I am fairly representing Mr. du Pont's views when I say that he subscribed in a general way to this thought. He expressed doubt, however, that the plant could be used for the manufacture of anything but tetra ethyl lead, and as there was no one but us to purchase that product, it was quite unthinkable to him that anything would be done with the plant until we have definitely decided exactly what we are going to do; he also indicated serious doubt as to any conversion of scrap value.

On the adjustment, I would like to suggest that the du pont Company agree to set this plant apart for a generously reasonable length of time for the manufacture of tetra ethyl lead or any other product which we might later on desire the du Pont Company to manufacture for us and to which the plant might be made adaptable; and that if it should not ultimately be used to manufacture something for us that we

be paid the salvage value, whether demolished or converted to some other purpose.

(3) Of course, in the settlement we would want to include agreement on the part of the du Pont Company to fix a future price for the article manufactured in the plant and to be purchased by us, which "will not include in cost any item of amortization of the plant which has already been paid for" (quoting Mr. du Pont's language in his letter of June 9th.

Yours very truly,

*E. W. Webb*

E. W. WEBB.

ES

cc to Mr. W. C. Teagle,  
26 Broadway, New York.

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NOTE: Written across the top of the page is "Ethyl Gas—Contracts—du Pont, E. I. de Nemours & Co."; at upper right appear illegible initials; beneath letterhead appear illegible initials; to right of address is stamped "Received Jun 29, 1925—A. P. Sloan, Jr."; at far right appears the routing stamp containing the initials "A. P. S.", "J. L. P.", "H. M. C.", "F. C. H.", "A. K. H.", "L. R. B.", "A. T. B.", "W. F. A."; check marks appear opposite the initials "A. P. S." and "A. T. B."; on the third line of the second paragraph on the first page a check mark is superimposed on the date "9th"; italics indicate handwriting.



4475

Letterhead of  
STANDARD OIL COMPANY  
(Incorporated in New Jersey)  
DEVELOPMENT DEPARTMENT

NEW YORK June 29, 1925.

Adjustment of du Pont Contract.

Mr. E. W. Webb,  
Ethyl Gasoline Corp.,  
25 Broadway, N. Y. C.

Dear Mr. Webb:

Pursuant to the arrangements made by you, Mr. Teagle and Mr. Sloan, Mr. Donaldson Brown and the writer discussed the adjustment of the du Pont contract today and arrived at the following unanimous conclusion as to a basis of settlement:

The broad basis is that the du Pont Company is entitled to be made whole for its operations under the ethyl chloride contract, without profit, but with interest on its capital actually invested up to the time of the settlement.

In applying this principle, the following points were specifically considered and agreement reached as follows:

1. Recognizing the fact that the ethyl chloride manufacturing contract carried with it the agreement on the part of the du Ponts to assign patent rights relating to improvements in the manufacture of antiknock to the Ethyl Corp., and in further consideration of the fact that the cost of all research work is included in the sum for which we reimburse the du Pont Co., the Ethyl Corp. is to have the full benefit of all of this research work, so as to be able to employ the results thereof, either itself or through others, just as effectively as the du Pont Co. is able to employ it.

X We don't undertake to teach only give information

2. The du Pont Company is to agree that it will hold the ethyl chloride manufacturing plant in readiness for

x—

to Apr 16 '26  
only.

operation [for such period as may be requested by the Ethyl Corporation, all expenses of maintenance to be borne by the Ethyl Corp., and the scale or manner and cost of maintenance to be agreed on by the du Pont Co. and the Ethyl Corp.] 0175.

No

3. If at any time the du Pont Co. wishes to make use of the ethyl plant for any purpose, it shall then pay to the Ethyl Corp. the then value of the plant to the du Pont Co. for the purpose for which they contemplate its use.

4. The du Pont Co. to agree that in any new contract

—2—

for the production of lead in the ethyl chloride plant the principle will be recognized that the plant has already been paid for by the Ethyl Corp. and that the losses of initial operations and cost of obtaining the experience necessary to operate the plant on a production basis have also been paid for by the Ethyl Corp.; this latter being upon the theory that the position taken by the du Pont Co. as to the propriety of the present basis of settlement assumes that but for our cancellation of the contract at the present moment they were in a position in all respects to continue manufacture in the plant on a production basis in accordance with the terms of the contract.

After arriving at the foregoing settlement in principle with the du Pont Co., it is the understanding that there will be an audit of the du Pont Co.'s books covering the matters in question, by the Ethyl Corp. with such assistance as it may wish from the General Motors and Standard Oil accounting departments, and that final payment will be based on the results of this audit.

In view of Mr. du Pont's desire to get this matter as nearly settled as it could be at the present time, it was agreed

*Our proposition  
specified for  
acceptance  
by 7/1/25*

*We don't agree  
to waive profit  
if not accepted*

that the sum of \$1,500,000. should be paid to the du Pont Co. immediately by the Ethyl Corporation as a payment on account of the settlement of this contract, this payment being made at the present time, rather than after the audit is completed, at the request of Mr. du Pont and with the understanding on our part that it is not now expected that the results of the audit will show any less sum to be due and that the du Pont Co. is therefore entitled to definitely credit this amount on their books as having been received on account of its claim against the Ethyl Corporation. If the audit should show a sum less than a million and a half to be due the du Pont Co., we should therefore have no legal claim for reimbursement, but should rely upon the good faith of the du Pont Co. in making a satisfactory adjustment.

I was instructed by Mr. Teagle and Mr. Sloan to write out this memorandum for you giving the results of our meeting today, and to ask you to proceed to work out the definite settlement with Mr. du Pont on the basis of the foregoing. We all appreciate that some of the points above enumerated may require to be more fully and definitely stated in the settlement agreement.

Although I do not remember that the matter was discussed by our conference, it occurred to me as soon as I began to write this memorandum that Mr. du Pont should have a copy at once, and since you agreed with me in this I am sending him a copy today.

Yours very truly,

(Stamped) FRANK A. HOWARD

fah/ve

4478

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NOTE: At lower right of both pages is written "GMC-557a"; beneath the letterhead on the first page is written "Copy for Mr. du Pont"; underlining and marginal lines are by hand; notation in left margin opposite first paragraph of second page is illegible; italics indicate handwriting.

2198



4479

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)  
WILMINGTON, DELAWARE

TREASURER'S OFFICE

June 30, 1925.

MR. IRENEE DU PONT, PRESIDENT

Attached will be found copy of Mr. Howards letter to Mr. Webb which I phoned to you about today.

After talking with you I talked with Mr. Webb and after some discussion he advised that he would deliver checks totaling \$1,500,000 to Mr. Raskob today for our account without any strings attached to it at all, and that he would endeavor to get in touch with you today or tomorrow regarding the further provisions of the settlement.

Mr. Webb advised that the fact that you had received a copy of this attached communication should mean in no sense a commitment on our part to agree to anything and in fact he felt that one or two of the provisions were not in line with your ideas and that this fact had been confirmed by his conversation with Mr. Sloan.

*W. S. Carpenter, Jr.*  
VICE PRES. AND TREASURER.

WSC:W.

NOTE: At upper right is written "C-26-E"; beneath this is drawn the figure "5" surrounded by a circle; check mark is by hand; at lower right is written "GMC-557"; italics indicate handwriting.

4480

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
WILMINGTON, DELAWARE

EXECUTIVE OFFICES

July 1, 1925.

Mr. E. W. Webb, President,  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

*to Webb  
Read ^ but not  
sent to him  
IduP.*

Dear Mr. Webb:—

This is to serve as a record of what I shall expect to say to you orally when you visit me tomorrow:

Mr. Howard's letter to you, dated June 29th, "Adjustment of du Pont Contract" is not satisfactory. It differs in principle materially from the proposition which we have submitted to you in writing and if analyzed will be found to be intolerable.

We cannot cede ownership of the ethyl lead plant which is the tacit meaning of Mr. Howard's letter. It would result in endless discussion as to what should or should not be done if the up-keep is to be paid for by the Ethyl Gas Corp. Manifestly we cannot agree to settle on a basis determined by your auditors regardless of the correctness of their reasoning. I expect that they will approve our bill as rendered. If they can find any errors we will, of course, correct them but that is quite different from accepting their opinion if they should differ from us in their findings.

As I stated at the Directors meeting the du Pont Co. would not dismantle or destroy the ethyl lead plant as long

4481

as there was any reasonable likelihood of its being needed and I think we would

—2—

be willing to agree not to dismantle before April 15th next but thereafter any disposition of it must be left to our judgment.

Further we would, as a matter of fairness, on any future contract "load" our costs by re-amortizing investment already amortized.

Our contract speaks for itself as regards ceding to you any inventions on anti-knock compounds but we could not undertake to teach you, or your appointees, how to carry on that manufacture as well as we could do. We can tell you what we have learned but that does not of necessity mean that your appointee could do it himself without a good deal of coaching.

Very truly yours,

IRÉNÉE DU PONT, President

NOTE: At upper right of first page is written "C-26-E" beneath which is drawn the figure "5" surrounded by circle; at lower right on both pages is written "GMC—558"; line in left margin on second page is handwritten; italics indicate handwriting.

4482

ETHYL GASOLINE CORPORATION

25 BROADWAY

COPY

NEW YORK

July 27, 1925.

IN REPLY PLEASE REFER TO

E. W. Webb

Re: Chloride Process Contract Adjustment

Mr. Irene du Pont, President,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

Dear Mr. duPont:

We received the Auditors' report on the cost of the chloride process plant and the cost factors in connection with same.

There are several items of cost on which we would appreciate more information.

Power Plant Cost — \$ 84,582.00

Our information is that on June 29, 1920, your Executive Committee authorized an appropriation for \$ 549,268.00 for the construction of an additional power house and equipment, together with the purchase of six boilers, four of which were to be installed in the new addition. Due to the decline in business the latter part of the year 1920, construction was suspended. However, work re-commenced in the year 1923. On this date four boilers were installed to meet the additional demands for power. The completion of this work cost \$ 169,163.59. I understand that your company claims that the completion of two of the boilers was made necessary by the increase in power demands attendant upon the production of tetra ethyl lead by the



chloride process, and that upon this ground, we are being charged with one-half of the cost necessary to complete the installation of the four boilers, to wit, \$ 84,582.00.

Inasmuch as the additional power plant and equipment were authorized for potential power requirements without relation to the tetra ethyl lead plant, the question arises as to whether this charge of \$ 84,582.00 would reflect an actual loss to you even if the tetra ethyl lead operations were never continued. Have you not at hand, by reason of this additional equipment, a reserve power to meet any future requirements of your general business, ignoring completely any use of the lead plant? If so, is it correct to charge the lead plant with one-half of this cost?

#### Research Expense

I observed in the report that this expense include monthly items from January 1924 to October 1924, amounting to \$ 65,824.00. Inasmuch as these are for a period prior to the making of the contract, I would be pleased to be informed the

reason for the charges.

—2—

#### Changing the Riverside Club — \$21,400.34

I am advised this charge is for converting the Riverside Club building into an eight-family apartment.

We have not sufficient facts before us to formulate an opinion as to whether or not this is a proper charge against the chloride lead plant.

#### Item 2590 — Comfort Station — \$2,467.80

I am advised that this station was built for the use of the men employed in the bromide as well as the chloride plant.

- If so, it would appear there should be some division of cost between the two plants.

#### Estimated Loss on Pig Lead

Your bill shows an estimated amount of \$ 12,264.09. The pig lead has now been entirely disposed of; the actual loss was \$ 1,985.34 less than this estimate. The Dyeworks Department, I understand, have agreed to a corresponding reduction of this item.

I consider the salvage or conversion value of the chloride process plant as the principal matter to be adjusted between us. At our last interview regarding this and the other points, I left you with the impression that you were agreeable to the following:

1. That we should have the benefit of the research work in connection with this operation. Your Company is to give us all the information you have on the subject.
2. You to assign any patent rights relating to improvements in the manufacture of anti-knocks to date, to this company.
3. That in any future contract with us for the production of lead in this plant, you will, in fixing the price, take into consideration the fact that we have paid for the plant, and the other items mentioned in your bill.
4. You to hold this plant for the manufacture of lead for us until July 1, 1926.

At that time, you stated you were unwilling to consider our having the whole or any part of the salvage or conversion value of this plant. As I re-call it, your position was that if you had continued to manufacture lead until the termination of the contract, this plant would have been paid for at the conclusion of the contract, and therefore, you were entitled to at least that consideration.

I stated then, and still am of the same opinion, that I thought you were in error, regarding this assumption on your part, and I would like very much for you, if you please, to hear me further on this subject.

—3—

The fact is that at the time of the shut-down you were producing but a trifle more than one-third of the minimum requirements set up in the contract. When this production could have been increased, to what extent and how long you could have continued without serious interruption, is problematic. Under the contract we were not obliged to take in excess of 458,000 lbs. any one month. Naturally, none of us will ever know whether you would have been able to have met the minimum requirements of the contract in any single month, but I think there can be no serious question that the conditions as they were at the time of the shut-down and with the limitation on the amount which we were obliged to take any month, you would not have been able to deliver and oblige us to take anywhere near the minimum of 4,000,000 lbs., but assuming that you had been able to reach such production, you would have had to make a profit of 50¢ per lb. in order to have netted you an amount equal to that which you are now demanding from us in settlement of the contract.

I believe from information obtained that your records do not warrant the confident belief that any such profit as that would have been made.

This conclusion has been strengthened by the verbal statements of the Auditors after going over your books and the information given to me, that the price of \$1.17 was based on a plant cost around \$ 600,000 to \$750,000, and which you did not take into consideration the extra-

ordinary expenses which you subsequently incurred by reason of the unexpected sickness, closing down, etc. and the statement made by Mr. Harrington at the interview in your office about a week before our Board decided to suspend, at which time you and Mr. Howard and I were present, that the plant had cost about \$500,000 more than was anticipated at the time the contract was made.

There have been no figures or estimates presented to me to warrant the inference that the statement I have just made are not fairly correct and it therefore appears to me that if we paid your bill in full, to wit, \$ 1,922,475.03, we would be paying you greatly in excess of what you would have made had the contract been continued. This would be adding a premium on the contract rather than effecting a settlement on the full amount, which under any and all circumstances, you would have been entitled to receive.

I know it is the mutual desire of each of us to effect as equitable an adjustment as is practicable under the circumstances. I have not intended and shall not now, to ask something of your Company which I would not request from a concern that did not bear to us the friendly and close relationship which yours does, however, I feel that the payment of your demands amply justifies us in expecting to reach a settlement upon the basis that when we have paid your bill we shall be entitled to the salvage or conversion value of the plant in the event it shall not be used for the manufacture of tetra ethyl lead or some other article by you and to be purchased by us.

Very truly yours,

EWV/ES.  
dB.

E. W. WEBB

NOTE: The initials "AR" appear at upper right of first page.



4487

Letterhead of  
ETHYL GASOLINE CORPORATION  
NEW YORK

August 6, 1925.  
LEAD CONTRACT

Mr. Alfred P. Sloan, Jr.,  
224 West 57th Street,  
New York City.

My dear Mr. Sloan:

Instead of writing to Mr. Howard directly relative to the present status of lead contract (he has recently written me on the subject) I thought perhaps it was timely to report to you and Mr. Teagle about the negotiations, particularly since Mr. duPont and I do not seem to agree on terms. A copy of the enclosed letter is being sent to Mr. Howard, but none will be sent to Mr. duPont until you and Mr. Teagle tell me to send it.

I thought in view of what you recently told me about the possible embarrassment of leaving the adjustment to you, that you would prefer to have it left to the Board, hence my suggestion to Mr. duPont. He seemed very agreeable to this.

I regret we were unable to arrive at mutually agreeable terms of settlement. I beg to assure you I have endeavored to give the matter fair consideration, but have been unable to concur entirely with the views advanced on behalf of the duPont Company, although I realize it is a very uncertain, therefore, debatable, question we are striving to solve.

EWV/CH

Yours very truly,  
E. W. Webb

NOTE: At upper right is written "AR"; to right of address is stamped "Received Aug 7, 1925, A. P. Sloan, Jr."; italics indicate handwriting.

August 7, 1925.

Mr. Earle W. Webb, President,  
Ethyl Gasoline Corporation,  
25 Broadway,  
New York, N. Y.

RE: LEAD CONTRACT

My dear Mr. Webb:—

I have your letter of August 6th and have gone over same carefully as well as the letter to Mr. Teagle and myself. I have looked over the examination of the duPont Company's records, same being an audit of the various items recently submitted to the Ethyl-Gasoline Corporation.

This is a very embarrassing and perplexing situation and I regret very much that it has arisen. It is embarrassing to everybody concerned. In view of the fact that my mind apparently is not in harmony with Mr. Ireneé duPont or Mr. Howard's, it makes it additionally difficult for me to make any suggestions that might be helpful.

I feel that we are trying to determine an impossible thing. I mean by this—we have established the principle that the duPont Company should be let out whole and yet the picture is not sufficiently developed to enable us to define that principle in terms of dollars and cents. If we go ahead and make tetra-ethyl lead, it is one thing. If we do not, it is another. If we do not and we still adhere to the principle that the duPont Company should be let out whole, that again can't be translated into dollars and cents until we see what becomes of the property that has been created. If the property is of no use to them then to make them whole we have got to make them pay the full cost of same. If the property is of some future use to them, then to make them whole we have got to determine what use that is which the future can only determine.

8/25

It means to me, therefore, that if Mr. duPont insists that a definite settlement be reached now and our friends the Standard Oil Company feel likewise, I can't see how this is possible unless we depart from the principle that the duPont Company is to be let out whole and nothing but whole and nothing else than whole and in its place adopt the principle that it is a bad mess and we have got to make a compromise settlement, that is satisfactory to all concerned irrespective of any principle whatsoever.

—2—

If you can explain to me how we can live rigidly up to the principle that we have outlined and not have the ability to look into the future at the same time, in that event if you can do that I think I could help you and make some concrete suggestions. I will say this, however, that I do not think it will do any good to put it before the Board. There are a lot of people on the Board that have really nothing to say about it anyway. In the final analysis it must come down to what Mr. Teagle thinks about it, I presume, as influenced by Mr. Howard and the others and what I may think of it so what is the use of putting it to the Board? This is not in any way disrespectful to the Board because things are bound to work out that way in the final analysis. It is much more embarrassing to deal with it in a large meeting than it is in a small meeting.

Will you kindly consider the above and let me have your viewpoint and as soon as Mr. Howard returns from his vacation perhaps something could be accomplished if you, he and myself had a little argument about it.

Very truly yours,

APSJr./K

NOTE: At upper right is written "AR"; above the figure "6th" in the first line appears a check mark; in the right margin opposite the fourth paragraph of the first page appears a large check mark beneath which is a routing stamp containing the initials "A.P.S.", "J.L.P.", "H.M.C.", "F.C.H.", "A.K.H.", "L.R.B.", "A.T.B.", "W.F.A."; check marks appear opposite the initials "A.P.S." and "A.T.B."; in the right margin of the first page opposite the space between the third and fourth paragraphs is written "8/25".



4491

Letterhead of  
ETHYL GASOLINE CORPORATION  
NEW YORK

August 12, 1925.

Mr. Alfred P. Sloan, Jr., President,  
General Motors Corporation,  
224 West 57th Street,  
New York, N. Y.

My dear Mr. Sloan:

It seems to me that the third paragraph of your letter of August 7th is unassailable. Certainly nobody can now state the amount which will make the du Pont Company whole. If (on the principle of being made whole) the plant is never used again for the manufacture of lead and it should turn out that it had no sales or conversion value to the du Pont Company, then we should pay them every cent they spent for the construction and on account of the plant; on the other hand, if it proved to have some value, then we should be credited with whatever that value is.

I would say that our inability to reach an agreement has been due to the fact that Mr. du Pont apparently has never subscribed to the policy of being made whole when looked at from the above standpoint. He has repeatedly said to me that any adjustment which does not involve the payment of their full costs, and the plant to remain theirs, is not making them whole. He says to make him whole is to place him in the position he would have been had we not cancelled the contract; that if the contract had worked out to its end they would have made enough out of it to have fully paid for the plant and all other items for which they are now billing us. I have urged the best I know how that such an adjustment would be on the basis of profit rather than on the principle we contend for.

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The difficulty about reaching an adjustment predicated on profit is that because of the past experiences with the plant it would be humanly impossible to calculate what the profits would have been had we not asked them to discontinue manufacturing. There is involved so much speculation as to what would or would not have occurred in this respect that I fear there would never be the sense of satisfaction of all parties concerned, which I would like to see, if we attempt to arrive at an understanding based upon profit. It seems to me that if Mr. du Pont is willing to forget all about profits and will accept the principle of placing his Company in as good position as it was before the contract was made insofar as any financial investment is concerned, then we should await the Committee's report and see what is to be done with the plant. Once he has subscribed to this basis of adjustment it seems to me we all would have the feeling that there will be some time in the future when an amount can be arrived at which will truly reflect the fulfillment of this obligation.

Frankly I entertain not the slightest doubt that a settlement

—2—

based upon being made whole, because of the peculiar conditions under which this contract was being performed, will be a better settlement for the du Pont Company than for it to waive this principle and confine itself to its strict legal rights, to wit: provable profits. I have made this statement to Mr. du Pont at the same time saying that from the standpoint of justice to his Company it would not be fair to oblige them to show what their profits would have been and that it was our desire to reimburse them for their expenditures on the principle above stated.

I am pleased to know that it is your desire to have this matter taken up outside of the Board Meeting and beg to

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assure you that my only reason for suggesting otherwise was because sometime ago Mr. Howard stated that if there should be any difference of opinion between Mr. du Pont and myself regarding the adjustment, he felt quite sure that Mr. Teagle would want to leave the matter to you entirely. You may recall I mentioned this to you and you stated that this would place you in a most unenviable position.

Mr. Howard is expected back August 23rd and if agreeable to you I would like to make an appointment, as suggested in your letter, during that or the following week.

Yours very truly,

*E. W. Webb*

· EWW/M

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NOTE: Beneath the letterhead and at upper right appear illegible initials; to right of address is stamped "Received Aug. 13, 1925, A. P. Sloan, Jr."; above figure "7th" in first sentence appears a check mark; italics indicate handwriting.

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ETHYL GASOLINE CORPORATION

25 Broadway,  
New York

March 10th, 1925.

In Reply Please Refer to A. M. MAXWELL

\$250,000.00 LOAN

Mr. Donaldson Brown, Vice-President,  
General Motors Corporation,  
224 West 57th Street,  
New York, N.Y.

Dear Mr. Brown:

With reference to telephone conversation of even date concerning our necessity to ask for additional funds both from you and the Standard Oil Company of New Jersey for the financing of our business, please be advised that our bank balance today is \$560,387.00. Our accounts payable for February are approximately \$549,000.00. Of this amount we owe \$506,613.00 to the du Pont Company for February deliveries of Tetraethyl Lead. After paying these accounts payable you can see that the balance will practically be wiped out.

On the other hand, we have at Dayton \$781,000.00 in raw material—Tetraethyl Lead and Ethylene Dibromide, and \$265,000.00 in finished stock—Ethyl fluid. Accounts receivable, \$294,000.00.

Accordingly, we believe, due to the slowness of sales of Ethyl Gasoline by our customers and until such time as our new territory which we are opening up will begin drawing upon our finished product, that we will need \$250,000.00 each from General Motors Corporation and Standard Oil Company of New Jersey. It may be possible we will have to call for some additional funds until the summer season



sets in and sales begin to increase, as has been the case last year. We make this statement due to the fact, as you are aware, our Board has approved the purchasing and equipping of a vessel to produce Tribromaniline from sea water, which will cost between \$350,000.00 and \$400,000.00.

I have taken this matter up with the Standard Oil Company of New Jersey and they suggest, if same meets with your approval, rather than purchase out-right additional stock in the Ethyl Gasoline Corporation, that General Motors Corporation and Standard Oil Company of New Jersey each loan Ethyl Gasoline Corporation \$250,000.00 at interest rate of 5%, it being understood this interest rate will be subject to change semi-annually. In other words, on July 1st this rate may be raised or lowered, depending upon the money market.

If this meets with your approval, will you kindly have your Treasurer, at his earliest convenience, make arrangements for this loan of \$250,000.00 at 5% interest.

Very truly yours, :

ETHYL GASOLINE CORPORATION

Per A. M. MAXWELL

Vice-President and Sales Manager.

March 16, 1925.

To: FINANCE COMMITTEE

From: DONALDSON BROWN, V.P.

LOAN TO ETHYL GASOLINE CORPORATION

The Ethyl Gasoline Corporation have called upon General Motors Corporation and the Standard Oil Company of New Jersey for an advance in each instance of \$250,000, the circumstances necessitating said request being set forth in the attached copy of letter from the Ethyl Gasoline Corporation under date of March 10<sup>th</sup>.

This additional capital is requested in the form of a loan rather than as a subscription to additional stock, for the reason that the present inventory of Tetraethyl Lead is abnormally high, and the Ethyl Gasoline Corporation will probably be able to pay off the loans later in the year. We have agreed to carry the loan at 5% interest up to June 30<sup>th</sup>, with adjustment of interest rate then.

Will the Committee please approve the action taken in extending this loan?

*Donaldson Brown*

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NOTE: At upper right is written "J. J. R."; at upper middle is stamped "GMC Finance Committee, Secy's No." and the figure "2010" is written in; at upper right appears a check mark with a circle around it; italics indicate handwriting.

GENERAL MOTORS CORPORATION

INTER-ORGANIZATION LETTERS ONLY

April 13, 1925.

SUBJECT

FOR ATTENTION OF Donaldson Brown, Vice Pres.

This is to advise that the Finance Committee, at meeting held today authorized a loan of \$250,000. to the Ethyl Gasoline Corporation with interest at 5%, which rate/<sup>is</sup>subject to adjustment July 1st.

I understand this loan has already been effected and the Finance Committee's action was a confirmation thereof.

*C. D. Hartman, Jr.* ✓

H.

Copy to M. L. Prentis, Treasurer.

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NOTE: At upper right is written "F-207"; check mark is by hand; italics indicate handwriting.

Extract from Minutes of Meeting of the Finance Committee  
of General Motors Corporation duly held on the 13th day  
of April, 1925.

\* \* \* \* \*

PRESENT: J. J. Raskob, Chairman

H. F. duPont

Lammot duPont

Irene duPont

Donaldson Brown

A. P. Sloan, Jr.

George Whitney

\* \* \* \* \*

LOAN TO ETHYL GASOLINE CORPORATION

Report was received from Vice President Donaldson Brown, dated March 16 1925 (#2010), advising that due to the present high inventory of tetraethyllead which the Ethyl Gasoline Corporation is carrying, it is necessary for said Corporation to borrow \$500,000, half from General Motors Corporation and half from the Standard Oil Company of New Jersey, each of which owns 50% of the capital stock of Ethyl Gasoline Corporation. Mr. Brown advised the Committee that this loan has been made at 5%, which rate is subject to adjustment July 1, 1925.

Upon motion the above mentioned report was accepted and ordered filed, and the action taken by Mr. Brown in effecting said loan was approved.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

NOTE: Italics indicate handwriting.



Extract from Minutes of Meeting of the Finance Committee  
of ~~General~~ Motors Corporation duly held on the 27th day  
of April, 1925.

\* \* \* \* \*

PRESENT: J. J. Raskob, Chairman  
Donaldson Brown,  
H. F. duPont,  
Lammot duPont,  
P. S. duPont,  
Fred J. Fisher,  
Seward Prosser,  
A. P. Sloan, Jr.,  
George Whitney.

\* \* \* \* \*

LOAN TO ETHYL GASOLINE CORPORATION:

The Chairman advised the Committee that due to the necessity of having to carry at this time very high inventories, the Ethyl Gasoline Corporation finds it necessary to borrow additional funds. Therefore, upon motion, the proper officers of the Corporation were authorized to loan to Ethyl Gasoline Corporation the sum of \$300,000 at 5%, which rate is subject to adjustment on July 1, 1925, it being understood that Standard Oil Company of New Jersey will advance a like amount.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

NOTE: Italics indicate handwriting.

Extract from Minutes of Meeting of the Finance Committee  
of General Motors Corporation duly held on the 1st day  
of June, 1925.

\* \* \* \* \*

PRESENT: J. J. Raskob, Chairman,  
Donaldson Brown,  
H. F. duPont,  
Irene du Pont,  
Lammot duPont,  
P. S. duPont,  
Fred J. Fisher,  
Seward Prosser,  
A. P. Sloan, Jr.,  
George F. Baker, Jr.

\* \* \* \* \*

LOAN TO ETHYL GASOLINE CORPORATION:

The Chairman advised that he had authorized an additional loan of \$400,000. to the Ethyl Gasoline Corporation; interest at the rate of 5% but subject to change July 1, 1925, it being understood that Standard Oil Company of New Jersey would advance a like amount. Upon motion, the action taken by the Chairman in this connection was approved.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

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NOTE: Italics indicate handwriting.

Extract from Minutes of Meeting of the Finance Committee  
of General Motors Corporation duly held on the 24th day  
of July, 1925.

\* \* \* \* \*

PRESENT: Alfred P. Sloan, Jr., Chairman pro tem,  
Donaldson Brown  
H. F. duPont,  
Irene duPont,  
Lammot duPont,  
Fred J. Fisher,  
George F. Baker, Jr.

\* \* \* \* \*

LOANS TO ETHYL GASOLINE CORP.

Report was received from Vice President Donaldson Brown dated July 20, 1925 (#1298) advising that under agreement between General Motors Corporation and the Standard Oil Company of New Jersey whereby any advances required by the Ethyl Gasoline Corporation would be supplied equally by ourselves and the Standard Oil Company of New Jersey (each being the owner of 50% of the stock of Ethyl Gasoline Corporation) there has been advanced by General Motors an aggregate of \$1,700,000. Mr. Brown requested authority to advance additional amounts up to a total of \$500,000, with the understanding that the Standard Oil Company of New Jersey would match any amounts advanced by us, the interest rate on all loans to be 5%.

Upon motion, the above mentioned report was accepted and ordered filed, all loans to date as well as Mr. Brown's recommendation being approved.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

NOTE: Italics indicate handwriting.

4502

Government's Exhibit No. 702

COPY FOR MR. W. F. HARRINGTON.

May 7, 1925.

Mr. E.W. Webb, President,  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

Dear Mr. Webb:—

Some days ago I mentioned to you the inadvisability of injecting into the tetraethyl lead contract the provision that should du Pont discover or acquire improvements in anti-knock materials they should be ceded without cost to the Ethyl Gasoline Corporation.

Manifestly, this simply means that we will never acquire such inventions but would simply refer the owner to you, and, manifestly, it prohibits our spending money in research for improvements of anti-knock material because the cost would be du Pont's and any valuable finds would be the property of the Ethyl Gasoline Corp. It seems to me that it is an opportune time in view of the cancellation of our contract for making tetraethyl lead that this question be taken up and definitely settled on a more common sense basis.

Will you give it some attention?

Very truly yours,

IRÉNÉE DU PONT, President

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NOTE: "FILE COPY" is printed across page.



Letterhead of  
GENERAL MOTORS CORPORATION  
NEW YORK

January 26, 1926.

Mr. Earle W. Webb, President,  
Ethyl Gasoline Corporation,  
25 Broadway,  
New York, N. Y.

My Dear Mr. Webb:—

I called up Mr. Howard yesterday on the telephone in connection with an entirely different matter and we got talking about the proposed program that we were to deal with in the near future and he pointed out to me the very great importance that the cost of tetra ethyl lead, concentrated, as received from the duPont organization, would assume in the operations of Ethyl Gasoline Corporation. Naturally, in an offhand telephone conversation one can not get the complete picture, but I took it, from what Mr. Howard had in mind, that due to the necessary expense of operating the organization with all its ramifications, etc., like any other business, that the question of volume was an important one and until we got our volume up to large figures, we would have difficulty in making 'both ends meet', so to speak.

Naturally, we here need no education on the effect of volume on price. It is our middle name, so to speak, or, in other words, we have been brought up on it and it is why, as you know, the automotive industry has assumed such large magnitude.

I mention this because in dealing with the duPont Company, I think it would be very helpful if we could make a setup showing exactly what we could do and what we could not do. It should be shown in sufficient detail so that it would be readily acceptable. As a matter of fact, the

duPont organization, our friends, the Standard Oil Company, and General Motors Corporation are, in principle, partners in this enterprise. We have each got to do our part to the best of our ability. I am sure that the duPont Company appreciates this just as much as the rest of us do and I believe that a complete analysis of our limitations, starting with the maximum selling price that can be set up and dealing with our necessary expenses and all that sort of thing interpreted into what we can fairly pay for the cost of tetra-ethyl lead during the next year or so, will serve to greatly impress upon the duPont organization our position and will make

—2—

them feel that it is both necessary and desirable that they should work along with us, even at a smaller profit than they would like, while we are developing volume and getting ourselves on our feet.

I believe that Mr. Ireneé duPont is absent and will be for a week or so, altho I am not sure, which means that there will be plenty of time to develop a picture of this kind if you think it is worth while.

The above is merely offered as a suggestion for what you may consider it worth.

Very truly yours;

*Alfred P. Sloan, Jr.*

APSJr./K

B

c/c Messrs: Donaldson Brown  
Frank Howard

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NOTE: At upper right is stamped "File . . . by" (rest of stamp obscure); check mark is by hand; at upper right of second page is written "D2"; italics indicate handwriting.

February 8, 1926.

Mr. Ireneé duPont, President,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

My dear Ireneé:—

I have your very kind letter of February 5th dealing with certain phases of the Ethyl Gasoline situation.

I have felt for some time that you were, in a way, out of harmony with the way things were developing and I do not know as I blame you. There are many things which I am out of harmony with myself. Your letter gives me an opportunity to express my opinion confidentially on various things which I will do in a letter because it is so hard to get an opportunity to sit down and discuss them personally.

First. I am not now in harmony, and never have been, with the discussion with your company regarding the cost of tetra ethyl lead. So far as I am concerned, if you tell us what it should be I would be satisfied to accept it as being a proper and constructive price based upon a fair cost of manufacture with a reasonable allowance for all the hazards that we are going into and I am perfectly satisfied to base our commercial program on such price as you might name, knowing that it is to your interest as well as ours to get the price down as low as is consistent. On the other hand, you must recognize that I am essentially, or at least believe and hope I am, a member of the duPont family and having, rightly or wrongly, formed this association with our friends the Standard Oil Company of N.J. and they knowing my position, it places me in a very embarrassing situation and I have felt, therefore, that I could help more in an indirect way by keeping my mouth shut. I was never in favor of the Standard Oil Company of N.J. going into the manufacture of tetra ethyl lead, but I felt that they never would get it out of their

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system unless they did go into it and when they established their record I felt that they would look at it differently than they had before, but apparently they do not seem to yet entirely appreciate all the facts in the case. However, I am sure that this will work itself out altho it is a little disagreeable in the meantime.

Second. With all due respect to your judgment, I frankly and honestly do differ with you on the question of the hazard. I did feel and still feel that it was the right thing to withdraw from the market and I presume you still think that it was the wrong thing to do. If

—2—

our responsibility was to be limited to Ethyl Gasoline Corporation, it would be one thing, but in the case of General Motors we must maintain the good-will of the public for the sake of our car products and in view of the position we were placed in by attacks which we did not have the ammunition to meet, I felt that in deference to public opinion and to our own position, we should retire until we knew more conclusively where we were at. Now we come to the point where we can go ahead and the same consideration actuates me. I think that we should confine the handling of the concentrated material in as few places as possible. I do not think we should go so far as to confine it to the refineries. As a matter of fact, I know in a practical way we will not do that. I do think, however, that we should eliminate the small pumps at the service station and the larger pumps on the tank wagon and that if it is worth going into at all it is worth going into so that we eliminate those particular hazards at least and I am sure that all our customers will agree with us on this and that we can go ahead on that basis altho perhaps not quite so fast. I agree with you that with organization you can do anything, at the same time the expense



and the practical workout must be considered and, frankly, I should hate very much, if we can work it out any other way, to go back to a tank wagon mixing proposition. If our customers will not do it any other way and it is either that or nothing, then let us consider the hazard of that and decide our situation, but in the meantime if we can go ahead in a better way even in the face of a little delay, isn't that the better procedure?

Third. Regarding price, I have been discussing this matter with the Standard Oil people and I think you are, undoubtedly right. As a matter of fact, the price was set two or three years ago when we first started and has been carried at cost and nobody has raised the question. Now all these questions come up and I see no reason why we should specify the price and I think that that position will prevail.

Fourth. When it comes to standardization, we should consider that matter further and I am sure it will be considered. Recognizing that any use of tetra ethyl lead must mean that the gasoline is ethylized gasoline irrespective of amount, if we sell tetra ethyl lead without any standard it would seem to me that a user purchasing the material would get a varying degree of satisfaction from nothing up to very complete satisfaction, depending upon how much tetra ethyl lead was used and, therefore, the term ethylized gasoline would not mean very much and would sooner or later become discredited. It may be that that would not happen, but certainly if we have no prescribed standards in other things of manufacture it usually results in deterioration of the products. On this point it occurred to me that we might adopt a standard for anti-knock and maintain that standard and then we might sell tetra ethyl lead at a lower standard and not call it ethylized gasoline, but the weakness of this is that I imag-

ine the position would be taken that the use of any amount of tetra ethyl lead would have to carry the precautions

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incident to the full quantity, at least to a degree, and it would be hard to distinguish one from the other. Frankly, I do not exactly see how we can get anywhere unless we do adopt a standard, making that standard what commercially seems to be the best. However, that also will be considered more fully.

Fifth. I have had so much experience in the past few years in co-ordinating components which were more or less in conflict and which were rather indefinite at the best, that altho I felt rather discouraged at the end of our meeting the other day, nevertheless it was no different than a good many other meetings I have attended. I feel that there is a much better way to handle the property than the way it was handled the other day and I suggested to Mr. Webb that we ask the Standard Oil Company to appoint a man and that we will appoint a man to act as an Executive Committee and see if we can not formulate more thoroughly our programs so that those points that have to go to the Board can be taken up after the principles have been more carefully worked out and a consensus of opinion developed before the meeting, both for the sake of conserving time and getting a more definite result.

To sum up the situation, I should be very much disappointed if you decide to withdraw from the picture at this time. I think that by working together a little more closely we can iron out many of these difficulties. I do not think it is the desire of any party to the picture to be arbitrary or to want to go one way as against another. I feel that there is nothing that is desirable for Ethyl Gasoline Corporation but

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what can be adopted and I have always found, outside of the relations with you, which I frankly think have been somewhat unreasonably handled, the attitude of our friends the Standard Oil Company to be helpful and constructive and we have always been able to do what we wanted to do if we were sure enough of our position to take a strong position.

Very truly yours,

APSJr./K

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NOTE: In right margin above text of letter appears a routing stamp containing initials "A. P. S.", "J. L. P.", "H. M. C.", "F. C. H.", "A. K. H.", "L. R. B.", "A. T. B.", "W. F. A."; check marks appear opposite the initials "A. P.S." and "A.T.B."; check mark and underlining are by hand; italics indicate handwriting.

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2229

Letterhead of  
E. I. DU PONT DE NEMOURS & COMPANY  
WILMINGTON, DELAWARE

February 10, 1926.

Mr. Alfred P. Sloan, Jr., President,  
General Motors Corporation,  
224 West 57th Street,  
New York City.

Dear Sir:

Thank you for your letter of the 8th.

Admittedly I was somewhat ruffled at the lack of progress of the Ethyl Gas Corporation; also at their attitude on duPont's proposition to make tetra-ethyl lead. We certainly have the hard end of the job, and questioning a few cents a pound, which means hundredths of a cent per gallon for our services, seems so very out of place compared with preemptory knocking off 50¢ or \$1.00 a pound, equivalent to the price charged for Ethyl Gas.

Of course, the hazard is all a matter of judgment. Certainly the hazard in simply pouring a small amount of ethyl fluid into gasoline seems trifling to me in comparison with the hazard of its manufacture. It would also seem trifling compared with the danger of using high explosives, and those hazards are met in thousands places all over the country. Of course, the lead hazard is much more obscure and may be proportionately more dangerous thereby.

As regards standardization, perhaps there is a feasible way but it seems difficult to find, and practically we could

—2—

get the use of the fluid introduced very rapidly if we would make it easier for the consumer.



4511

I will exercise patience and do my best to further the proposition in which ever way the majority desires it done.

Very truly yours,

*Irénée du Pont.*

Irénée duPont, President.

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NOTE: Across the top is written "Ethyl Gas Org. Bd. of Directors—du Pont Irene"; beneath letterhead and at upper right appear illegible initials; beneath date line appears routing stamp, initials of which are obscure, bearing check marks after first and seventh places (probably same as Government Exhibit 689); to right of address is stamped "Received Feb 11, 1925, A. P. Sloan, Jr."; check mark and underlining are by hand; italics indicate handwriting.

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2231

March

THIS AGREEMENT made this 31st. day of ~~April~~ 1926, between E. I. DU PONT DE NEMOURS AND COMPANY, a corporation of the State of Delaware, hereinafter called the "Seller", and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the "Buyer",

## WITNESSETH:

WHEREAS the Buyer desires to have the Tetraethyl Lead, which it is purchasing from the Seller under a concurrent agreement, mixed with other materials, viz Ethylene-di-bromide and Halowax Oil and/or other substances, to put the Tetraethyl Lead into the commercially marketable form known as Ethyl Fluid; and

WHEREAS the Seller is willing to undertake the carrying out of this operation, being particularly fitted to do it in view of the fact that the Surgeon General's recommendation is that this operation, known as blending, be conducted at a point adjacent to the point of manufacture of Tetraethyl Lead:

NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) in hand paid by the Buyer to the Seller, the receipt whereof is hereby acknowledged, and the mutual covenants of this agreement, the parties hereto have agreed and hereby do agree as follows:

1. The Seller agrees as soon as practicable after the execution of this agreement to install at a point adjacent to its Tetraethyl Lead plant the necessary equipment for carrying out this operation of blending, under conditions which are necessary for safe operation, which plant shall include a warehouse with tile walls, concrete floors, and a storage space sufficient to hold 500 drums of Ethyl Fluid stored one-tier high.

II. As soon as this installation has been completed the Seller agrees to manufacture Ethyl Fluid by blending the raw materials supplied by the Buyer in the proportions represented by a mixture known by the Buyer as J-3, consisting of three parts by volume of Tetraethyl Lead, about two parts by volume of Ethylene-di-bromide, and one-half part by volume of Halowax Oil, containing a certain amount of coloring material.

—2—

III. The capacity of the plant to be installed by the Seller shall be sufficient to take care of the preparation of six hundred thousand (600,000) pounds per month of Ethyl Fluid of the above composition, and, if the Buyer so desires and shall supply the materials therefor, this rate of operation shall be reached not later than July 1, 1926.

IV. The Seller agrees to blend all the materials supplied by the Buyer up to the capacity of the plant at a price of one and three-fourths cents ( $1\frac{3}{4}\text{¢}$ ) per pound for the first five million (5,000,000) pounds and one and one-fourth cents ( $1\frac{1}{4}\text{¢}$ ) per pound for the next six million five hundred thousand (6,500,000) pounds of finished Ethyl Fluid based upon the composition of mixture given above, or to prepare other mixtures if desired by the Buyer at prices which are commensurate with this figure. Payment shall be made on the tenth day of each month for all Ethyl Fluid delivered during the previous month.

V. The Buyer is to deliver to the blending plant all of the raw materials and packages required. The Seller, free of charge to the Buyer, is to do all necessary cleaning and painting of packages, fill them with Ethyl Fluid and deliver them to the warehouse which will be situated adjacent to

the blending plant and under the control of the Buyer, and furnish the necessary labor to load all Ethyl Fluid delivered at the warehouse on board cars.

VI. The compensation quoted above is based upon the assumption that the operation of the blending plant will be continued until a total of twenty-seven million (27,000,000) pounds of Ethyl Fluid of the above composition, or any modified composition specified by the Buyer, have been delivered. If the Buyer shall elect to discontinue the taking of Ethyl Fluid at any time prior to the delivery of eleven million five hundred thousand (11,500,000) pounds, it may cancel this agreement upon taking over all of the Ethyl Fluid finished or in process at the time of cancellation. In the event of cancellation the Buyer shall pay to the Seller the unamortized portion of the cost of the blending plant which the Buyer and Seller hereby agree shall be determined by taking

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one-third of a cent per pound for the quantity by which deliveries have fallen short of twenty-seven million (27,000,000) pounds quantity.

But if eleven million five hundred thousand (11,500,000) pounds of Ethyl Fluid have been delivered under this contract, and the Buyer and the Seller do not enter into a contract covering further blending of Ethyl Fluid, the Buyer shall pay to Seller the sum of Fifty-one Thousand Six Hundred Sixty-six Dollars and sixty-seven Cents (\$51,666.67), which sum the Buyer and Seller agree would be the unamortized portion of the cost of said blending plant.

On the other hand, if the Buyer and Seller do enter into a contract covering further blending, the charge for such blending shall include the said unamortized cost of said



blending plant on a pound basis equally distributed over the entire amount contracted for; on condition, however, that if the Buyer shall not take and pay for an amount of Ethyl Fluid which shall fully amortize the plant as aforesaid, the Buyer shall pay the Seller, in cash, on the termination of such agreement, any such unamortized portion of said blending plant cost.

Payment of the sums hereinabove provided for in paragraph VI shall be in full of all claims for damages by the Seller against the Buyer because of cancellation of this contract.

VII. The Seller will provide the necessary laboratory facilities to enable the inspector of the Buyer to take such samples and make such tests as may be required to permit him to determine the quality of the Fluid being delivered.

VIII. Neither the Buyer nor the Seller shall be liable to the other for any failure of performance caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, but, the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to perform as to the quantities provided in this agreement, but shall merely postpone performance, with the understanding however that no blending is to be done or called for after the cessation of the supply of Tetraethyl Lead under the concurrent agreement.

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IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed

and their respective corporate seals to be hereunto affixed  
on the day and year first above written.

E. I. DU PONT DE NEMOURS AND COMPANY

By *W. F. Harrington*

Attest: General Manager—Dyestuffs Dept.

*M. D. Fisher*

Asst. Secretary

ETHYL GASOLINE CORPORATION

By *E. W. Webb*

Attest:

President

*A. E. Mittnacht*

Secretary

In consideration of the execution of the foregoing contract by E. I. DU PONT DE NEMOURS AND COMPANY, the undersigned, being the owners of all of the capital stock of the ETHYL GASOLINE CORPORATION, do hereby guarantee that the foregoing agreement shall be fully and faithfully performed by the ETHYL GASOLINE CORPORATION, in accordance with the terms thereof.

STANDARD OIL COMPANY (NEW JERSEY)

X By *S. B. Hunt*

Attest:

Vice President

**WPI**

*C. E. White*

Secretary

GENERAL MOTORS CORPORATION

By *Alfred P. Sloan Jr.*

President

Attest:

*L. R. Beardslee*

Asst. Secretary

*March*

THIS AGREEMENT made this 31<sup>st</sup> day of ~~April~~, 1926, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter called the "Seller", and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the "Buyer".

WITNESSETH:

WHEREAS the Seller has a plant for the manufacture of Tetraethyl Lead under process known as the "chloride process"; and the Buyer is desirous of purchasing from the Seller its entire requirements of Tetraethyl Lead:

Now, THEREFORE, in consideration of the mutual covenants the parties hereto agree as follows:

I. The Seller agrees, as soon as may be after the signing of this agreement, to complete the changes in equipment at the said plant, which were interrupted by the discontinuance of operations in May, 1925.

II. Beginning as soon as these changes are completed the Seller agrees to commence and continue production at as rapid a rate as is consistent with safety.

III. The Seller agrees to sell and deliver and the Buyer agrees to purchase, receive and pay for the entire production of said plant during the period beginning with the signing of this agreement and ending February 29, 1928, provided, however, that the Buyer shall not be obligated to receive more than sixty thousand (60,000) pounds in June, 1926; one hundred and twenty thousand (120,000) pounds in July, 1926, one hundred and eighty thousand (180,000)

pounds in August, 1926; two hundred and twenty-five thousand (225,000) pounds in any of the six months beginning September, 1926, and three hundred thousand (300,000) pounds in any of the twelve months beginning March, 1927; nor more than five million (5,000,000) pounds in all. It is understood, however, that the Seller is to produce and deliver (at not exceeding the price hereinafter mentioned) any requested amount in excess of the monthly quantities above mentioned, up to the capacity of its said plant, on receiving at least thirty (30) days written notice in advance of the calendar month affected that the Buyer desires such additional deliveries; and always conditioned on the ability of the Seller to do so consistently with safety.

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IV. The price shall be One Dollar (\$1.00) per pound of one hundred percent. Tetraethyl Lead content, f. o. b. Seller's plant, Deepwater, New Jersey. If the operation of blending shall be conducted at the Seller's plant, delivery of Tetraethyl Lead to the storage tanks at the blending plant shall constitute a delivery, and invoices shall be rendered on that basis.

The Tetraethyl Lead delivered hereunder shall be of a quality and purity at least equal to that heretofore supplied by the Seller to the Buyer.

Payment shall be made against invoices on or before the tenth day of the month following the calendar month in which deliveries are made.

V. In case the Seller is prevented, by judicial, legislative or other governmental action, from making or delivering Tetraethyl Lead, this contract shall, at the option of the Seller, terminate. The Buyer shall have the option to terminate this contract at any time for any reason what-



soever upon giving written notice to the Seller of the Buyer's intention so to do, and thereupon the contract shall end. It is expressly agreed that in the event, that this contract is terminated, either by Seller under the circumstances mentioned above, or by Buyer for any cause, as aforesaid, the Buyer shall pay to Seller, except as hereinafter mentioned, as reimbursement, an agreed compensation for making changes in said plant and equipment and for starting up and closing down said plant, and any and all damages of whatsoever nature sustained or claimed to be sustained by Seller by reason of such termination, the following amounts:

1. The Buyer shall accept delivery of all Tetraethyl Lead in process at the time of the termination, and shall reimburse the Seller for all loss and expense incurred in liquidating stocks of, and commitments for, raw materials purchased for use in fulfilling this contract. The Buyer may, at its option, conduct such liquidation or may have the Seller do so for the Buyer's account.

2. In case the Seller, at the date of termination, has delivered less than One million (1,000,000) pounds, the Buyer shall pay the Seller ten cents (10¢) per pound for the undelivered portion up to one million (1,000,000) pounds.

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3. In addition to the amounts specified at 1 and 2, the Buyer shall pay the Seller four cents (4¢) per pound on all undelivered material in excess of deliveries made up to four million five hundred thousand (4,500,000) pounds, provided, however, that there shall be subtracted from the amount undelivered to which the four cents (4¢) per pound aforesaid is applicable the amount, if any, by which deliveries may have fallen short of the monthly amounts set

forth in the schedule in paragraph III hereof, and provided further that if the Seller is prevented by judicial, legislative or other governmental action from making or delivering Tetraethyl Lead on account of conditions within Seller's control, then the payment provided to be made by the Buyer to the Seller under this subdivision of paragraph 5 shall be reduced one-half.

VI. Neither the Buyer nor the Seller shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, with the understanding, however, that the Seller shall not be obliged to make, nor the Buyer to accept, any deliveries after February, 1929.

VII. In view of the obligation of the Buyer to be responsible for the liquidation of stocks of, and commitments for, raw materials purchased for use in fulfilling this contract (as set forth in paragraph V) it is provided—because of the peculiar circumstances connected with Ethyl Chloride—that the Buyer shall have the right to disapprove any contract to be made by the Seller covering Ethyl Chloride, but on the understanding that if the Buyer shall fail to approve any such contract, and shall fail to provide Ethyl Chloride from some other source on terms equally satisfactory to the Seller as to quality, price and deliveries, then the Seller shall have the option to terminate this agreement with obligation on the Buyer to make reimbursement as in said paragraph V provided.

VIII. It is agreed that if during the term of this contract the Seller develops any other anti-knock material it will notify the Buyer of the fact, and the Buyer is hereby given an option to purchase and use said anti-knock material upon terms and price to be agreed upon by the parties.

IN WITNESS WHEREOF the parties hereto by their officers duly authorized, have caused this agreement to be executed and their respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By W. F. HARRINGTON

General Manager—Dyestuffs Dept.

Attest:

M. D. FISHER

Assistant Secretary

ETHYL GASOLINE CORPORATION,

By E. W. WEBB

Attest:

A. E. MITTNACHT,

Secretary

President.

In consideration of the execution of the foregoing contract by E. I. DU PONT DE NEMOURS & COMPANY, the undersigned being the owners of all of the capital stock of the ETHYL GASOLINE CORPORATION, do hereby guarantee that the foregoing agreement shall be fully and faithfully

performed by the ETHYL GASOLINE CORPORATION, in accordance with the terms thereof.

STANDARD OIL COMPANY (NEW JERSEY)

By *S. B. Hunt*

Vice President.

Attest:

*T.W.P., Jr.* *C. E. White*  
Secretary

GENERAL MOTORS CORPORATION

By *Alfred P. Sloan, Jr.,*

Attest

*L. R. Beardslee*  
Asst. Secretary



THIS AGREEMENT, made this 31 day of *March*, 1926, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, of the first part (herein referred to as "DuPont Company"); and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, of the second part (herein referred to as the "Ethyl Company").

WITNESSETH:

WHEREAS, DuPont Company has at Deepwater Point, Salem County, New Jersey, a plant which was especially constructed and equipped under a previous contract between the parties hereto for the production of tetra-ethyl lead by the Ethyl Chloride Process, with capacity production of not less than four million (4,000,000) pounds thereof per annum; and

WHEREAS, it was contemplated that DuPont Company would be enabled to recoup its costs and expenses incurred in the construction and equipment of said plant from proceeds derived from the sale of the product therefrom during the course of performance of said previous contract, but was prevented from so doing by cancellation of said contract by the Ethyl Company; and

WHEREAS, DuPont Company has been fully recompensed for all loss sustained by it resulting from the cancellation of the said previous contract, excepting its costs and expenses incurred in construction and equipment of said plant, claim in respect of which is now in controversey between the parties hereto; and

WHEREAS, the Ethyl Company is now undertaking to extend the use of said tetra-ethyl lead throughout the country as an ingredient for motor fuel and may ultimately be able to purchase the maximum output of said plant; and desires therefore to secure from DuPont Company the exclusive right to such maximum plant capacity throughout the five-year period next ensuing;

**Now, THEREFORE**, in consideration of the premises and of the mutual covenants and conditions hereinafter set forth, the parties hereto have agreed as follows:

1. DuPont Company hereby covenants and agrees with Ethyl Company that so long as the production of tetra-ethyl lead by DuPont Company at said plant and sale thereof to Ethyl Company shall be covered by a contract or contracts between the parties hereto, mutually satisfactory to them—limited, however, to the full period of five years from the date hereof—DuPont Company shall reserve the full capacity of said plant exclusively for such production for the Ethyl Company, whether or not such full capacity therefor shall be required for the fulfillment of any current contract requirements;
2. The consideration to be paid by the Ethyl Company to DuPont Company hereunder shall be at the rate of Two Hundred sixty-three Thousand, Seven Hundred Thirty-two Dollars (\$263,732.00) per annum for the full period of five years from the date hereof, the consideration for the full period being payable and having been paid by the Ethyl Company to DuPont Company in advance, the receipt whereof is hereby acknowledged;
3. In the event said plant shall, at any time prior to the expiration of the five-year period aforesaid, cease to be used for the production of tetra-ethyl lead for the Ethyl Company, due to the fact that there is not in operation any mutually satisfactory written contract between the parties hereto for such production and sale, and such cessation of use shall continue for thirty consecutive days, it is understood and agreed between the parties hereto that DuPont Company shall have the right to terminate this agreement, and all obligations and liabilities hereunder, upon giving to the Ethyl Company written notice of such termination after the expiration of said thirty-day period;

provided, however, that the total payments made by the Ethyl Company, as provided in Paragraph 2 hereof, shall in that event be retained by DuPont Company, not only in consideration of its reservation of the maximum plant capacity for the benefit of Ethyl Company to the date of such termination, but also in full settlement for any and all claims of DuPont Company hereinabove mentioned for recompense for loss resulting from the cancellation of the previous contract between the parties hereto;

In event this agreement shall continue in force for the full five-year period aforesaid, all claims of DuPont Company hereinabove mentioned for recompense for loss resulting from the cancellation of the previous contract between the parties hereto shall be deemed to have been fully settled.

IN WITNESS WHEREOF, the parties here to have cause these presents to be signed by their respective officers thereunto duly authorized, and their corporate seals to be affixed hereto, the day and year first hereinabove written.

E. I. DU PONT DE NEMOURS & COMPANY

By *W. F. Harrington*

~~Vice President.~~

*Gen. Mgr. Dyestuffs Dept.*

Attest: *M. D. Fisher*

*Asst. Secretary.*

ETHYL GASOLINE CORPORATION

By *E. W. Webb*

President.

Attest: *A. E. Mittnacht*

Secretary.

NOTE: At lower right of first four pages is written "GMC-1003"; at lower right on fifth through eighth pages is written "GMC-1003a"; at lower right on the ninth to 11th pages is written "GMC-1003b"; italics indicate handwriting.

December 3, 1924.

Mr. Alfred P. Sloan, Jr.  
224 W. 57th Street,  
New York City.

Dear Mr. Sloan:—

Replying to yours of the 1st, I think it is out of the question for you to consider purchasing tetraethyl lead from the British Dyes:—

1. They will have to duplicate the troubles we went through.
2. They have not got as large a research organization as we had.
3. They would have to make material for a small fraction of our cost before it would pay them for the reason that duty on organic chemical compounds coming into the U.S. is practically prohibitive.

The British Dyes is not a part of the Nobel organization. I believe Nobel did have a small stock interest in them and am not clear whether they have disposed of it or not.

I heard from Don of the Badische Company's substitute for tetraethyl lead. He indicated that it could be sold on a basis equivalent to 70¢ per lb. of ethyl lead. I think we should make very sure of just what the situation is before getting committed. One not familiar with organic chemical industry could get very badly fooled and tied up on a foreign importation. If it takes  $2\frac{1}{2}$  times as much of the proposed material as of tetraethyl lead this would make the material sell for some 28¢ per lb. Now unless the compound or its method of manufacture can be patented, and is patented by the Germans, and I doubt very much if such can be the case, it would mean



that its import is absolutely prohibited into the United States under the present law; i.e. the tariff would be substantially as high as the selling price in this country.

The fact that Dr. Bosch has stumbled over a material which you can consider as a possible substitute for tetraethyl lead leads me to wonder how thorough the research on hunting for substitutes has really been? Have you ever seen a list of all the organic compounds actually tested as an anti-knock? If you have such a list I would like to see it for quite possibly the field has not been entirely covered.

Sincerely yours,

IRÉNÉE DU PONT, President

N.B.—Since dictating the above Harrington tells me Mr. F.

that/Whetmore called on us here in Wilimntgon ten days ago and while here wanted to obtain the rights to make several dyes which we make under our know-how; also wish to obtain the know-how of making tetraethyl lead for sale in England. Of course we had no right to give him the latter and we simply referred him to the Ethyl Gasoline Corp. I doubt if he seriously contemplates selling in the U.S. even if we should give him the know-how and fail to see what interest ethyl gas could have in such a long chance of obtaining an independent supply.

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NOTE: At lower right on both pages is written "GMC-589a"; at first page upper right is written "C-26-E"; diagonally across both pages is stamped "File copy".

Government's Exhibit No. 709

Letterhead of  
GENERAL MOTORS CORPORATION  
NEW YORK, N. Y.

December 4, 1924.

Mr. Ireneé duPont, President,  
E. I. DuPont deNemours & Company,  
Wilmington, Delaware.

My dear Ireneé:—

I have your letter of December 3rd and before I get into the merits of the case permit me to say that whatever suggestion is made I find it absolutely necessary, in my work, to exhaust it, therefore you may find that perhaps I write you about things which you might think were unnecessary. In many instances it seems unnecessary to me, but I have found so many times that the thing that at first seems of no particular benefit develops, on further investigation, into something that is worth while. I just mention this in passing although I do not know as it applies to this particular thing.

In going over your letter I note that I have not put the matter to you properly. I had a lengthy letter from the Standard Oil people before me which dealt with the matter from the standpoint of manufacture of tetra ethyl lead for consumption in England and perhaps other Continental countries exclusively. It had nothing to do with any possibility in the United States. Therefore, we will have to start all over again, so to speak. I rather imagine, however, that you will agree with me that nothing should be done, at least for the present. We have troubles here that must be ironed out and the competitive situation in the oil industry is quite a little different in England and Continental countries than it is here. Then again, in view of the fact that our partners,

so to speak, the Standard Oil group, are very strongly entrenched abroad and have a large proportion of the business, I just question whether the ethylized gas should not be sent over there in bulk as ethylized gas rather than get into all the complications of the manufacture of tetra ethyl lead or the exportation of same from here and have to deal with a lot of bulking stations with its attendant difficulties. I think you will probably agree with me that this is by far the best procedure.

In any event, please understand that there was not any thought on the part of the Standard Oil Company of an independent source of supply in England and, as a matter of fact,

—2—

I think they have changed their entire viewpoint about an independent source of supply anyway, for which I am very gratified. I think, however, irrespective of the very unfortunate Bayway circumstance that if we had not let them go ahead and try something and get their idea out of their system it would have always been a difficult thing to deal with. Now that they have tried it and are satisfied, we can go on with the next thing.

Very truly yours,  
Alfred P. Sloan Jr.

B.

APSJr./K

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NOTE: At lower right on both pages is written "GMC-589"; at first page upper right is written "C-26-E"; beneath letterhead is written "Hold for Irene as per talk with Sloan"; above text of letter on first page is stamped "Received Dec. 8, 1924—Lammot du Pont"; above word "December" in first line of letter appears a question mark; italics indicate handwriting.

December 12, 1924.

Mr. Irene duPont, President,  
E. I. DuPont de Nemours & Company,  
Wilmington, Delaware.

My dear Irene:-

Some time ago I spoke to you regarding your coming on the Board of the Ethyl Gasoline Corporation and at that time you said you thought on account of the fact that you were contractors and all that sort of thing, it might not be just the right thing to do—a point which I did not exactly agree on at the time—but anyway I thought we would just as well defer it for the moment. Now that the thing has been definitely set for a long time to come, I can't help but believe that it is proper to raise the question again.

I was talking to some of the Standard Oil people today and they feel that it would be a very constructive thing if you would come in with us on this proposition. duPont will always be the manufacturing agent of Ethyl Gasoline Corporation whether we make tetra ethyl lead or whatever we make, now or in the future. I am sure of that. New anti-knock compounds in the natural course of events are bound to come up from time to time. Your knowledge and experience in the manufacture of chemicals will be very, very helpful. The Standard Oil people know nothing about that and on our side, at least speaking for myself, I know less than the Standard Oil Company does. Your interest with us and your interest in duPont really, I believe, necessitates your making the sacrifice and giving us what time may be necessary which we try to minimize to the greatest possible degree.

A meeting of the Directors of the Ethyl Gasoline Corporation has been called for a week from Monday at two





*thirty*

o'clock in the afternoon. It will be held at 26 Broadway, the office of the Standard Oil Company. We hold our meetings there because they have a very nice place and it saves the Standard Oil crowd from going over to the Ethyl Gasoline offices and it is equally convenient for us.

—2—

At this meeting there will come up Mr. Kettering's report as to his trip abroad, he just having returned, and there will come up particularly an analysis of the Badische anti-knock proposition. You know them, you know the picture and all that sort of thing and I again go back to the thought that your viewpoint will be very helpful.

Will you please consider the matter and I hope, favorably. We all want you to come in with us and I really think your interests require you to do so, and particularly assuming that you are agreeable, I am going to ask you to put down the date of the next meeting—

Monday, December 22nd,

2:30 P.M.

Office of Standard Oil Company,  
26 Broadway,  
New York City.

With best regards,

Very truly yours,

APSJr./K

c/o Mr. P.S.duPont

NOTE: "AR" is written in upper right corner of each page. Italics indicate handwriting.

Copy for Mr. Alfred P. Sloan, Jr.

" " Mr. W.F. Harrington

June 2, 1926.

Mr. E.W. Webb,  
Ethyl Gasoline Corp.  
25 Broadway,  
New York City.

Dear Mr. Webb:—

Referring to Minutes of the Executive Committee, covering their meeting of May 27th, paragraph 3, copy of which Minutes were returned to you signed under separate cover:—

Notwithstanding that I am in an embarrassing position, by reason of the fact that the du Pont Co. supplies you with tetraethyl lead, I am obliged to go on record as disproving in principle of the placing of orders for that material with the American Research Laboratories for the following reasons:—

1st—They avoid a pressure reaction by using ethyl bromide and to that extent are on the same ground as our old bromine method of manufacture, which condition we agreed was undesirable because of the shortage of bromine.

2nd—They evidently are not conversant with the true dangers from poisoning and are using make-shift apparatus where poisoning becomes not only likely but almost a certainty.

If another disaster happens in Colorado no amount of explaining will excuse our directors for having encouraged

4533

novices to undertake such a dangerous operation. This seems doubly undesirable in view of the fact that the substitution of lead sulphate for metallic lead cannot occasion any material saving in cost of manufacture and the substitution of magnesium for sodium would be expected to yield no

—2—

saving whatsoever; consequently the method they are using should not be inherently any better than the bromine method, which has been supplanted at Deepwater Point; and consequently there is no financial advantage for Ethyl Gas and the Research Corporation jointly over the alternate supply by du Pont and Ethyl Gas jointly. But even if there were, the risk of a serious catastrophe of poisoning is too grave to be considered.

I hope that you will understand that it is only my feelings of the seriousness of such a move that causes me to put myself in an embarrassing position of refusing to acquiesce in the Executive Committee's judgment.

Very truly yours,

IRÉNÉE DU PONT

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NOTE: "V.C. 25" is written in upper right corner of first page. "FILE COPY" is printed across each page.

2253

2  
E

## Government's Exhibit No. 712

Extract from Minutes of Meeting of the Executive  
Committee of General Motors Corporation duly held  
on the 30th day of December, 1924.

\* \* \* \* \*

## Present:

Mr. A. P. Sloan, Jr., in the Chair,  
Mr. H. H. Bassett,  
Mr. Donaldson Brown,  
Mr. Charles T. Fisher,  
Mr. Fred. J. Fisher,  
Mr. Lawrence P. Fisher,  
Mr. C. S. Mott,  
Mr. J. T. Pratt,  
Mr. J. J. Raskob.

\* \* \* \* \*

ETHYLIZED GASOLINE

The President orally informed the Committee that Mr. Kettering, who has just returned from Europe, advises that the Badische Company (a German chemical concern) has developed an "anti-knock" compound which is non-poisonous. A larger quantity of this compound is required for each gallon of gasoline to produce a given result as compared with the quantity of tetraethyllead per gallon, but owing to its very low cost the Badische compound is relatively much cheaper than tetraethyllead. Mr. Sloan further stated that the matter has been discussed with the Standard Oil Company and duPont & Company and it has been agreed that duPont & Company shall negotiate with the Badische



4535

Company for the rights to their "anti-knock" compound in  
the United States and Canada.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

\_\_\_\_\_  
Italics indicate handwriting.

2255

2

Extract from Minutes of Meeting of the Executive  
Committee of General Motors Corporation duly held  
on the 5th day of January, 1925.

\* \* \* \* \*

Present:

Mr. Alfred P. Sloan, Jr., in the Chair,  
Mr. H. H. Bassett,  
Mr. Donaldson Brown,  
Mr. Charles T. Fisher,  
Mr. Fred J. Fisher,  
Mr. Lawrence P. Fisher,  
Mr. J. L. Pratt,  
Mr. J. J. Raskob.

\* \* \* \* \*

ETHYLIZED GASOLINE

Referring to minute made at meeting December 30th  
in regard to the "anti-knock" compound developed by the  
Badische Company, the President advised that the duPont  
Company is sending a representative abroad to negotiate  
with the Badische Company for this compound.

\* \* \* \* \*

A true copy.

(Signed) *George A. Brooks*  
Secretary

Italics indicate handwriting.

1537

COPY FOR MR. H.G.HASKELL

CABLE FROM LONDON OFFICE, MARCH 22, 1926 JEC

Irene duPont. Following Dr. Paul Muller Preparatory talk of March 12th I spend March 16th with Bosch with satisfactory results except that he is furious at General Motors application (for) iron carbonyl patent-s and other move-s of E. I. duPont de Nemours & Company against Badische Anilin & Sodafabrik interests. Stop. Yet he considers co-operation between us inevitable and I believe if misunderstanding can be cleared away co-operation between the two companies on a broad basis will now ensue. Stop. After several years research I. G. Farbenindustrie A.G. have developed new lacquers which they claim are superior to Duco and essentially new features protected (by) basic patents in (all) every country-s. Stop. I proposed joint company for central Europe on exactly same basis as Nobel Chemical Finishes with amount of E. I. duPont de Nemours & Company free shares (to) be decreased by agreement depending upon value of their improvement-s also E. I. duPont de Nemours & Company British and French subsidiary to have the right to acquire for their territory exclusive license to I. G. Farbenindustrie A. G. lacquers patents against royalty payment-s or other compensation. Stop. This plan was received sympathetically but Bosch refused (to) have any commitments even in principle and until contract has been signed (by) both parties will be free. Stop. First steps must be (to) determine merit-s of I. G. Farbenindustrie A.G. inventions and to solve this difficult question without subsequent embarrassment they will promptly send representative to Parlin to demonstrate and test their lacquers. Stop. There

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is nothing more to be done until my arrival (at) Wilmington and thorough discussion about whole situation. Stop. In the meantime suggest that you review all phases of past relations with German group-s and arrange for sympathetic handling of any subjects now pending.

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NOTE: At upper left is written "File I.G.—Lacquer"; at upper right is written "18".



4539

Copy for Mr. Jasper E. Crane,  
Building.

June 8, 1926.

Mr. Alfred P. Sloan, Jr.  
General Motors Corporation,  
224 W. 57th Street,  
New York City.

Dear Mr. Sloan:—

I want to lay before you, as a Director of Ethyl Gas, my point of view on the circumstances surrounding the patent interference on iron carbonyl anti-knock patents.

If the interference was with an unknown or unreliable party, there would be no question that the only thing to do would be to put it in the hands of a competent patent attorney and get the best out of the situation that we could. In the present instance, however, the case seems to be quite different. History of the iron carbonyl patent is that the Dayton Research Corp conceived the idea that it might be a good anti-knock and were the first to conceive that idea. They were unable to obtain any of the material so as to file their patent application. Later, Dr. Bosch having seen a sample of tetraethyl lead, thought that perhaps iron carbonyl would be an anti-knock also; having a supply of it he tried it and applied for a patent thereon. A year later and before disclosure by the Badische Co. to us, Kettering obtained a sample of iron carbonyl, found that it was an anti-knock and filed a patent application. In the Patent Office this constitutes an interference where Dayton Research had the original conception and Badische first reduced to practice and applied.

Now, as a matter of fact, the patent is of more or less doubtful value, owing to the difficulty of using in practice this material. Further, if it is used its best source of supply for some years at least, will probably be the Badische Co. who can make it almost as a by-product, beside which the Badische Co. believe that they are subject to your general anti-knock patent and therefore cannot sell it without your consent. It would seem, then, that Ethyl Gas and Badische are more or less in one boat anyhow and will have to come together in order to utilize the material effectively, assuming it ever will be utilized.

Apart from this it is very important that the relations between the Badische Co., the greatest chemical manufacturer of Europe and even the world, and the du Pont Company, one of the great chemical companies of the world, should be friendly, not only for du Pont's sake, but also for the sake of General Motors. For instance, Badische now claim to have a new synthetic solvent which can be used to advantage in Duco. Our negotiations with them are temporarily halted because of their belief that we are double crossing them on the iron carbonyl matter, for they do not differentiate between du Pont and Ethyl Gas. This means that improvement in the finish of motor cars may be interfered with to some extent by a needless quarrel on who is the owner of the iron carbonyl patent, a question of minor importance after all. Beside which, a frank disclosure between the principals of Ethyl Gas and the Badische Co. of all circumstances surrounding the invention of iron carbonyl as an anti-knock may be the best way of getting that question properly settled. It certainly would be less expensive than having a long

drawn out patent litigation. control of which would be in the hands of lawyers who want to win regardless either of merits or other more important results,

I don't altogether blame Badische for feeling sore. They know that Kettering saw a sample of iron carbonyl though they didn't disclose what it was and that they told him that material was a very good anti-knock. He was keen enough to recognize what the material was, return home and file a patent application thereon. Without knowing the prior history that appears to them to be rather sharp practice, though it would have been avoided if the Badische Co. had been quite frank at the time and told Kettering that it was iron carbonyl, under pledge that he would not attempt to apply for patent on it. Also, from the Ethyl Gas side is it not wise to encourage improvement in anti knocks knowing that they have a basic patent and are in control of the situation and due to improvement can get in the saddle more easily.

Am writing you thus fully because I would like to have your aid should the matter come before the Board.

Mr. Jasper Crane, who is quite familiar with the situation from the du Pont point of view, has made an engagement to meet Mr. Morrison, Patent Attorney of the Dayton Research, Mr. Kettering and Mr. Webb on Monday next, and I hope that they can thrash it out to the satisfaction of all concerned.

Very truly yours,

IRÉNÉE DU PONT

NOTE: At upper right of first page is written "V.C-25"; diagonally across second and third pages is stamped "File copy".

4542

Form 11474\* 50M 1-26

Date 6/25/26.

To: Mr. Irene duPont.

From: J. E. Crane.

	Please discuss with
	For approval
	For attention
✓	For information
	Note and forward to file
	Note and return to sender.

REMARKS:



## (SUGGESTED FORM OF LETTER)

I.G.Farbenindustrie A.G.,  
Ludwigshafen a/Rhein,  
Germany.

Dear Sir:

Inasmuch as our patent application on iron carbonyl has been brought into interference in the United States Patent Office with your patent application, and as we have been informed that you have been offended by our making application for patent, we are writing in order to give you a full understanding of our position. We attach hereto the opinion of our patent attorney concerning our rights in this matter.

This speaks for itself and represents our position as it would be if we had no other relations whatever with your good company. However, should iron carbonyl prove useful, we have expected to look to you for supplies of the material. We still hope that the research work you are doing on iron carbonyl as an anti-knock may have a successful issue and that, if the manufacture of iron carbonyl in the United States becomes economically desirable, it may be taken up along the lines of the negotiations of December, 1924.

This being the situation, it seems to us inadvisable that we quarrel over the ownership of the patent on iron carbonyl. Therefore, but without prejudice to our legal position, we offer to withdraw our patent application on iron carbonyl, to recognize the validity of your patents, and to make no effort to produce or sell iron carbonyl for anti-knock purposes without your consent; in return for which

you recognize the validity of our general patents on volatile metallic compounds for anti-knock purposes, and agree not to infringe these patents and not to manufacture nor sell iron carbonyl for anti-knock purposes except upon licenses under these patents on terms to be agreed upon. Specifically, in order to facilitate the development work which you are now carrying on, we would grant you a license under our German patent for the nominal consideration of One Dollar.

Here we wish to point out that it is of the utmost importance that the United States patent on iron carbonyl be as strong a patent as possible and fully complies with the requirements of American

—2—

patent law, so that no third party might later on challenge the validity of this patent by claiming that the applicant was not the true inventor or on any other grounds. If for such reasons it should now be agreed between us that our application would produce the stronger patent, we would then suggest that you abandon your application and that our application be assigned to your company.

Regarding your patent applications on metallic carbonyls as a class, we would be glad to discuss this matter with you to determine the best way to handle this particular issue, or if you prefer, we will leave this issue to be settled by the United States Patent Office.

We trust that the above suggestions may lead to a prompt solution of the difference between us and propose that you appoint a representative in this country to confer with us about drawing up a suitable contract. If, on the

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other hand, you would prefer us to appoint a foreign representative to confer with you in Ludwigshafen, we would be very willing to do this.

Yours very truly,

ETHYL GASOLINE CORPORATION

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NOTE: On first page a check mark is placed by hand in the space provided before the words "For information"; at upper right of second page is written "V. C. 22-B."

2265

Copy: Mr. Irene du Pont, V.P.

July 24, 1926.

Mr. A. P. Sloan, Jr., President,  
General Motors Corp.,  
New York City, N. Y.

Dear Mr. Sloan:

I note copy of your letter of July 19th addressed Mr. Irene du Pont, and regret that I shall not be able to attend the meeting next week. Irene tells me that he has arranged a definite date with you and will attend himself, so that I am sure the matter will be well handled.

My personal feeling is that negotiations with Badische on iron carbonyl should be conducted by us, for the reason that not only will our relations with Badische be improved thereby, but I believe we will actually secure a better deal, due to the fact that du Pont Company has more lines of connection with Badische than either General Motors, Standard Oil or Ethyl Gasoline Corporation.

Yours very truly,

PRESIDENT.

LduP/MD

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NOTE: At upper right is written "C-26", "C-26-E", and a check mark; along the left margin is written "C-26-E" and "C-26"; at lower right is written "GMC-596".



Letter "A" File C-29-F

November 18, 1926.

MR. LAMMOT DU PONT:—

Here is a memorandum of the points mentioned in the general conversation between Dr. Bosch, Dr. Gauss and Mr. Pickhardt on the one hand and you, Fred Pickard and me on the other.

1. We will deposit our stock in the new consolidation with Mr. Bosch who will attend to cashing the coupons for dividends when and as paid.

2. They are interested in Duco and will send experts to Parlin to investigate it probably in January. These experts will bring samples of their latest lacquers for comparative purposes.

3. Iron carbonyl situation is no longer irritating to them and they will be glad to take the matter up with the Standard Oil of New Jersey, representing Ethyl Gas Corp., in due course. This, therefore, eliminates their former excuse for not dealing with us on other matters.

4. The consolidation expect to carry out the explosives agreement by which they are to offer us improvements and we are to offer them improvements. This will be handled by Dr. Mueller and perhaps will be extended to pyroxylin plastics.

5. Their interest in our improvement in the manufacture of methanol and our desire that they give us the "Know-How" to make hydrogen from carbon monoxide and steam are tied up with the general

high pressure synthesis work and they don't care to handle this question piece-meal.

I gathered from Dr. Bosch's attitude that, notwithstanding the lateness of their visit, they are not losing interest in making some arrangements with us; that the delay was probably purposely made in order to avoid having to take up questions prematurely for the Germans have been very busy getting their consolidation together and really hardly know "where they are at."

(s) Irene du Pont

IRÉNÉE DU PONT, Vice Chairman

Copies for:—Mr. H. G. Haskell  
Mr. F. W. Pickard.

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NOTE: At upper right of first page is written "11-18-26"; at upper right of second page is written "11-18-26a"; at upper right of both pages is written "Germany".

4549

January 11, 1927.

E. W. Webb.

Mr. Alfred P. Sloan, Jr.,  
224 West 57th Street,  
New York City.

Dear Mr. Sloan:

Enclosed is a copy of the Agreement just concluded with the Badische (I.G.) people regarding Iron Carbonyl and also a copy of a letter from their Dr. Abel to Mr. Howard and of the statement by them entitled "Experiences With Iron Carbonyl In Germany" which accompanied the Agreement; also copy of my letter to Mr. Howard.

Under the circumstances I think this a satisfactory adjustment of the matter. I take it, of course, that there is no need for the immediate determination of what would be a reasonable manufacturers' profit in the event we should purchase Iron Carbonyl later on from the I.G., but it is something that we will give consideration to here with the thought that in due course an effort will be made to come to a definite agreement with them on that phase of the contract.

Yours very truly,

*E. W. Webb*

ES

cc to Messrs. Brown  
du Pont  
Kettering  
Smith.

NOTE: At upper right is stamped "Noted JEC"; at upper left are written, and subsequently deleted by hand, the names "Mr. Robinson" and "W. F. Harrington"; above the address is written "Buck, to note and return, I duP"; an arrow is drawn pointing to the name of "du Pont" at the bottom of the page and the notation "(Irene)" is written thereafter; italics indicate handwriting.

4550

January 11, 1927.

E. W. Webb.

Mr. Frank A. Howard,  
26 Broadway,  
New York City.

Dear Mr. Howard:

I am handing you herewith completely executed duplicate original of the Agreement between I.G. Farbenindustrie Aktiengesellschaft and Ethyl Gasoline Corporation, General Motors Research Corporation and Thomas Midgley, Jr. and also consented and agreed to by General Motors Corporation. There is also enclosed the original letter to you from Dr. Abel dated the 22nd ult. together with the statement entitled "Experiences with Iron Carbonyl in Germany".

We have had copies made of these papers for our files and delivered a copy of the Agreement to Mr. Morrison to enable him to make the necessary arrangements to carry into effect that portion of the contract which bears upon the interference proceeding now pending. He promised to give this matter immediate attention.

We have cabled our Dr. Calingaert, who is now in Belgium, to visit the Deutsche Gasolin Aktiengesellschaft of Berlin for the purpose indicated in Dr. Abel's letter and such other investigation which he might think desirable under the circumstances.

Please convey to the I. G. people our keen appreciation of the harmonious and friendly adjustment of this matter which we have reason to believe will be to our mutual advantage in the event Iron Carbonyl should prove commercially satisfactory.

Yours very truly,

ES

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T.G. FARBENINDUSTRIE AKTIENGESellschaft  
Frank A. Howard, Esq.  
c/a Messrs. Standard Development Co.  
Executive Offices,  
26 Broadway, New York.

Ludwigshafen a/Rhein  
den 22nd December 1926.

Reference — Dept. Oils.

Re: IRON CARBONYLE.

Dear Sir:

We beg to refer to our verbal discussions which took place some time ago, and have pleasure in informing you that we are prepared to accept the conditions as laid down in MEMORANDUM B, copy of which you posted to our Dr. von Knieriem on the 18th of last month.

Enclosed we beg to hand you two signed copies of this Agreement and would ask you to kindly return one copy to us duly signed by you.

During the conversations at the time it was proposed by our Dr. Gaus that an expert should be sent over here in order to visit the Deutsche Gasolin Aktiengesellschaft (German Gasoline Co.) of Berlin to gain first hand information about the results that were obtained by placing "Motalin"—a mixture of Gasoline and iron carbonyle—on the fuel market here.

We herewith beg to confirm this proposition and would ask you to kindly let us know, whom you intend to send over here and when we may expect this gentleman, so that we can make the necessary arrangements beforehand.

In order to enable you to form an opinion about the achievements of iron carbonyle for anti-knock purposes we

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also enclose herewith a short report about the position in general. As mentioned therein, we do not think that Germany is the best market for an anti-knock compound, as there are still large quantities of Benzole available, which when mixed with ordinary Benzine can be used as an anti-knock fuel. It is different however in countries like

—2—

Italy, Switzerland, Austria, Hungary, etc. where there is no (or practically no) Benzol available and where for that reason there is a keen and natural demand for an anti-knock compound. Although it is of very great interest to us to test the market in these countries we shall not take steps in that direction by submitting certain propositions to you until we have had an opportunity of reviewing this matter with you in general.

Awaiting the favor of an early reply  
we remain, Dear Sir,

Yours faithfully

I.G. FARBENINDUSTRIA AKTIENGESELLSCHAFT  
(sgd.) Dr. Abel

2572

December 22, 1926.

## EXPERIENCES WITH IRON CARBONYLE IN GERMANY

### PRELIMINARY TRIALS.

When we started to place Iron Carbonyle on the market in Germany as an Anti-Knock Compound, we had at our disposal the results of exhaustive experiments, carried out in our works by a number of motorcar manufacturers and other interested parties. The results of these preliminary trials were on the whole favorable. We were able to gain a great deal of experience over a period of nearly 2 years with our own fleet of cars. The results, which were submitted to us from other sources referred to trials which were carried out only over a distance of several thousand miles. It was found to be necessary to clean the sparking plugs after fairly long distances had been covered. No other troubles occurred during these trials.

### COMMERCIAL INTRODUCTION.

After Iron Carbonyle was placed on the market, complaints about other troubles were also made and it was found that users very often were under the impression that they were dealing with quite a new motor fuel. For instance it was mentioned that it was found harder to start the motor with Motalin than was previously the case with pure Gasoline. Furthermore, complaints were heard about the presence of water, mechanical impurities, the action of Iron Carbonyle upon copper through the formation of sulphite, and its bad odour. All these objections of course are—if at all justified—due to the quality of the Gasoline used for the production of "Motalin" and have nothing whatever to do with the addition of Iron Carbonyle.

It is well known that many motor fuels which are in use in Germany are the cause of pronounced deposits on

the valve stems. Furthermore deposits from the combustion gases, due to oil carbon and soot, are found on

—4—

the exhaust valves which cause trouble through the sticking and the subsequent burning out of the valves. If the gasoline contains Iron Carbonyl, these deposits are of a reddish colour on account of peroxide of iron being formed during combustion and the driver attributes the above troubles, without further thought, to the peroxide of iron. It is a difficult problem to find out in this case whether the peroxide of iron contributed to this trouble. Amongst our own cars this trouble has not been experienced.

It has also been said that on account of the intermixing of the oil and peroxide of iron, trouble has been caused in the lubricating system of the motors. In these cases as well it could never be definitely ascertained whether the peroxide of iron actually had an influence in this direction, as these statements mostly came from people who were not sufficiently acquainted with the nature of "Motalin". During our own experiments and those made by motor car manufacturers or other reliable people, these troubles in the lubricating system have never—not even by way of intimation—been found. Generally speaking it could be ascertained that the prejudice against the use of Iron Carbonyl was caused through the—in itself—harmless red coating, which is found in the compression chamber. This red coating was often compared with emery, rust or suchlike. It has been proved by many experiments that a grinding action is not in evidence. Special investigations have shown that it is hardly possible to polish metal with peroxide of iron which has been made from Iron Carbonyl, leave alone to grind same.



One of our main tasks has been to enlighten the drivers about the harmlessness of the peroxide of iron in the motor.

A matter which generally has made the introduction into Germany of this product more difficult is the fact that this country can dispose

—5—

of fairly large quantities of Benzole, which are almost sufficient to render the gasoline at hand fit to withstand a high compression. For that reason a strong counter agitation on behalf of the parties interested in Benzole was felt.

Much more favorable for the introduction of our product would be the position in countries such as Italy, Switzerland, Austria, Hungary, etc. where there is no—or practically no—Benzol available.

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NOTE: At lower left on last page appears mirror image of stamp "Received Jan 19, 1926 Lazote, Inc."

4556

AGREEMENT

between

I.G. Farbenindustrie Aktiengesellschaft, Ludwigshafen  
o/Rhine, hereinafter called "I.G."

and

Ethyl Gasoline Corporation of New York, hereinafter  
called "ETHYL" covering also Mr. Midgley and General  
Motors Research Corporation,

WITNESSETH: In consideration of the mutual cove-  
nants and promises herein contained,  
it is agreed as follows:

I.

That I.G. recognize Ethyl's dominating position in the  
anti-knock field, and the validity of its patent and/or patents  
on volatile metallic compounds for anti-knock purposes in  
all countries, and agrees not to infringe any such patent  
and/or patents and specifically not to sell or license others  
to sell iron carbonyl for anti-knock purposes in any ter-  
ritory or country except upon or by reason of a license  
under Ethyl's patent and/or patents and on terms to be  
hereafter agreed upon, except in reference to Germany.

II.

Ethyl will in consideration of the foregoing, recognize  
the validity of I.G.'s patent on iron carbonyl and for which  
application is now pending in the United States Patent  
Office, subordinate, however, to Ethyl's broad patent and/or  
patents as aforesaid, and Ethyl will withdraw its patent  
application on iron carbonyl now pending in the United

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States Patent Office, and agrees not to sell iron carbonyl for anti-knock purposes without I.G.'s consent, hereafter to be given, excepting in the United States of America and in the Dominion of Canada.

III.

Ethyl will license I.G. under the former's German patent to sell and license others to sell iron carbonyl for anti-knock purposes in Germany and not elsewhere during the life of said patent or any extension thereof, for the nominal consideration of one Dollar (\$1).

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IV.

I. G. will consent to Ethyl selling or licensing others to sell iron carbonyl for anti-knock purposes in the United States of America and Dominion of Canada and not elsewhere, during the life of I. G. 's present or future patents on iron carbonyl or any extension thereof, for the nominal consideration of one Dollar (\$1.), (it being understood that such consent does not expressly or by implication prejudice any of Ethyl's rights under its broad patent and/or patents on volatile metallic compounds for anti-knock purposes, as aforesaid); provided however, that Ethyl and its licensees shall purchase from I. G. any and all of its or their requirements of iron carbonyl for sale in the United States of America and the Dominion of Canada, for anti-knock purposes, at a price which will meet competition and upon a reasonable manufacturers' profit basis (the exact terms of which will have to be satisfactorily set forth in an agreement to be formally prepared on the subject.)

Ludwigshafen o/Rhine, 22nd December 26

New York, January 10, 1927.

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IN WITNESS HEREOF:

I. G. Farbenindustrie Aktiengesellschaft

(Sgd.) Gaus, Dr. Abel

GENERAL MOTORS RESEARCH CORPORATION

by James McEvoy, President,

Thomas Midgley, Jr.

Consented and agreed to by

GENERAL MOTORS CORPORATION

by John T. Smith, Vice-President.

New York,

January 10, 1927.

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NOTE: At lower right of second page appears the mirror image of stamp "Received Jan 19, 1926 Lazote, Inc."

2278

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4559

THIS AGREEMENT made this 31st day of March, 1928, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter called the "Seller", and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the "Buyer",

WITNESSETH:

WHEREAS in accordance with agreement dated the 31st day of March, 1926 Buyer is now purchasing from the Seller its entire requirements of Tetraethyl Lead, and

WHEREAS under that agreement there remains undelivered as of this date a quantity of 1,920,000 pounds, and

WHEREAS Buyer desires to make arrangements for purchasing its entire requirements of Tetraethyl Lead from the Seller for an additional period, and

WHEREAS Buyer desires to establish the conditions under which the Seller will agree to increase its producing capacity for Tetraethyl Lead from the present rated capacity of 300,000 pounds per month to a rated capacity of 600,000 pounds per month,

NOW, THEREFORE, in consideration of the mutual covenants and the payment of \$1.00 by each of the parties to the other, receipt of which is hereby acknowledged, the parties hereto agree as follows:

I. The agreement between Buyer and Seller, dated March 31st, 1926, is mutually agreed to be cancelled without any obligation for the payment of damages by either party.

II. The Seller agrees to sell and deliver and the Buyer agrees to purchase, receive and pay for its entire requirements of Tetraethyl Lead up to and including December

31st, 1930 or until deliveries from the date of this contract have amounted to 11,920,000 pounds, if this quantity shall have been delivered prior to December 31st, 1930. There shall be no obligation on the part of the Seller to supply any quantity greater than 300,000 pounds per month unless and until the producing capacity of the Seller's plant shall have been increased as hereinafter provided.

—2—

III. The price shall be \$1.00 per pound of 100% Tetraethyl Lead content from Seller's plant, Deepwater, New Jersey, and shall be subject to reduction in accordance with the terms and conditions hereinafter described. Delivery of Tetraethyl Lead to the storage tanks at the Blending Plant located at Deepwater shall constitute delivery, and invoices shall be rendered on that basis.

The Tetraethyl Lead delivered hereunder shall have a content of 97% or more of pure Tetraethyl Lead.

Payment shall be made against invoices on or before the tenth day of the month following the calendar month in which deliveries are made.

IV. During the months of April and May 1928 the standard price of \$1.00 shall apply. For these two months the Buyer's requirements are agreed to be 250,000 pounds per month. Effective June 1st, 1928 the price will be reduced to \$.90 per pound provided the requirements of the Buyer become 300,000 pounds per month, and shall continue at \$.90 per pound as long as the quantities taken by the Buyer amount to 300,000 pounds per month and until the quantity delivered under this agreement has reached 1,920,000 pounds. After this amount of 1,920,000 pounds shall have been delivered, the price will be reduced to \$.85 per pound regardless of the amount which the Buyer shall

require, limited only by the maximum of the rated capacity of the Seller's plant. Effective March 1st, 1929, of the quantity of 1,900,000 pounds shall have been delivered by that date, there shall be a further reduction in the price to \$.80 per pound.

All of the above prices and quantities are to apply unless and until the Seller shall have increased its plant capacity at the request of the Buyer as hereinafter provided. If no such plant increase is made, the price shall remain at \$.80 per pound until the expiration of this agreement.

V. In view of the fact that Buyer is the only customer for the production of Seller's Tetraethyl Lead plant, it is agreed that if in any calendar month Buyer's requirements shall fall below 150,000 pounds, Seller shall be at liberty to discontinue operations of its plant until such time as Buyer's requirements shall again increase to 150,000 pounds per month. Since such a complete

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cessation of manufacturing operations will result in disbanding the operating crew of the plant, Seller shall be allowed after such discontinuance the time necessary in its opinion to build the rate of production up to the desired figure again without incurring undue risks through the use of an untrained crew.

VI. If the Buyer shall desire to secure quantities in excess of 300,000 pounds per month, he shall so notify the Seller in written, and the Seller agrees to provide additional manufacturing capacity up to a total rated capacity including the present plant of 600,000 pounds per month, the additional capacity to be ready to make deliveries within six months from the date of such written notice. This agreement to provide additional manufacturing capacity is to apply only if the Buyer shall give notice not later than

October 1st, 1929 for the construction of such additional capacity to be available not later than April 1st, 1930. If, however, the Buyer shall give notice subsequent to July 1st, 1929, and not later than October 1st, 1929, of his desire to have additional manufacturing capacity provided, then and in that event the date of termination of this agreement shall be postponed until deliveries under this agreement have amounted to 11,920,000 pounds, even though such date shall be subsequent to December 31st, 1930. Upon the completion of the new plant, the price at which Tetraethyl Lead shall be delivered shall be adjusted in accordance with the following schedule, which schedule of prices shall continue from that date until the expiration of this agreement. There shall be no obligation on the part of the Seller to deliver any quantity in excess of 600,000 pounds in any one month.

<u>Deliveries of Tetraethyl Lead in pounds per month</u>	<u>Price of Tetraethyl Lead in cents per pound</u>
150,000	93¢
200,000	91¢
250,000	89¢
300,000	87¢
350,000	85¢
400,000	83¢
450,000	81¢
500,000	79¢
550,000	77¢
600,000	75¢

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VII. In case the Seller is prevented by judicial, legislative or other Governmental action from making or delivering Tetraethyl Lead, this contract shall, at the option of the Seller, terminate. It is expressly agreed that in the event that this contract is terminated, before a quantity of



1,420,000 pounds has been delivered under this agreement, the Buyer shall pay to Seller as reimbursement for any and all damages of whatsoever nature sustained or claimed to be sustained by the Seller by reason of such termination the following amounts:

1. The Buyer shall accept delivery of all Tetraethyl Lead in process at the time of the termination, and shall reimburse the Seller for all loss and expense incurred in liquidating stocks of, and commitments for, raw materials purchased for use in producing the first 1,420,000 pounds to be delivered under this contract. The Buyer may, at its option, conduct such liquidation or may have the Seller do so for the Buyer's account.

2. In addition to reimbursing the Seller for expense in liquidating stocks of raw material referred to above, the Buyer shall pay the Seller 4¢ per pound for the quantity by which deliveries under this agreement have fallen short of a total of 1,420,000 pounds, and provided further that if the Seller is prevented by judicial, legislative or other governmental action from making or delivering tetraethyl lead on account of conditions within Seller's control, then the payment provided to be made by the Buyer to the Seller under this sub-division of Clause VII shall be reduced one-half.

VIII. Neither the Buyer nor the Seller shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, with the understanding, however, that the Seller shall not be obliged to

make, nor the Buyer to accept, any deliveries after December, 1930, except for the contingency referred to in the third sentence of Clause VI, above.

—5—

IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed and their respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. DU PONT DE NEMOURS AND  
COMPANY

By *W. F. Harrington*  
General Manager  
Dyestuffs Dept.

[CORPORATE SEAL]

Attest:

*C. Copeland*  
Sec'y

ETHYL GASOLINE CORPORATION

By *E. W. Webb*  
President

[CORPORATE SEAL]

Attest:

*J. Goux*  
Assistant Sec'y

NOTE: At lower right of all pages is written "GMC 1016"; at the bottom of page 4 the words "Except for the contingency referred to in the third sentence of Clause VI above," are written in type slightly different from the rest of the text. Italics indicate handwriting.

THIS AGREEMENT made this 1st day of October, 1928, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter called the Seller, and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the Buyer.

WITNESSETH:

WHEREAS the Buyer desires to have the Tetraethyl Lead that it is purchasing from the Seller, under an agreement dated March 31, 1928, mixed with other materials, viz. Ethylene-di-dromide and Halowax Oil and/or other substances, to put the Tetraethyl Lead into the commercially marketable form known as Ethyl Fluid; and

WHEREAS the Seller is willing to undertake the carrying out of this operation, being particularly fitted to do it in view of the fact that the Surgeon General's recommendation is that this operation, known as blending, be conducted at a point adjacent to the point of manufacture of Tetraethyl Lead.

THEREFORE, it has been agreed as follows:

1. The Seller agrees to blend into Ethyl Fluid, and the Buyer agrees to have the Seller so blend into Ethyl Fluid, all the Tetraethyl Lead to be sold by the Seller to the Buyer henceforth pursuant to said agreement dated March 31, 1928, the Buyer, at Buyer's cost, to furnish at said blending plant the raw materials requisite to blend said Tetraethyl Lead into a mixture (known by the Buyer as B-Mix) consisting of 54.54 parts by volume of Tetraethyl Lead,

about 27.53 parts by volume of Ethylene-di-bromide, about 8.21 parts by volume of Halowax Oil and about 9.72 parts by volume of Kerosene containing a certain amount of coloring material. The Seller, however, shall not be called on to blend in excess of the capacity of its present blending plant at Deepwater Point, New Jersey, which is approximately one million, two hundred thousand (1,200,000) pounds of Ethyl Fluid per month.

2. The Buyer agrees to pay to the Seller, for said blending, the sum of One Dollar and Seventy Three Cents (\$1.73) per one hundred (100) pounds of Ethyl Fluid for the first fourteen million, one hundred and twenty thousand (14,120,000) pounds blended under this agreement, and ninety eight cents (98¢)

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per one hundred (100) pounds for remaining quantities blended hereunder.

3. These prices are based on the composition of B-Mix above given, and the Seller agrees to blend the Tetraethyl Lead in other mixtures, if so desired by the Buyer, at prices that shall be commensurate with those above. All payments shall be due on the 10th day of each month for Ethyl Fluid delivered during the preceding calendar month.

4. The Buyer agrees to provide all raw materials and all containers for the Ethyl Fluid, and to cause them to be available as needed at the blending plant of the Seller. The Seller, however, is to do all routine cleaning and painting of the containers without charge to the Buyer; but if the containers require sand blasting, or the removal of unusual accumulations of sludges, the cost of additional work so



required is to be borne by the Buyer. The Seller is to fill the drums with Ethyl Fluid and to deliver them to the testing room (which is to be situated adjacent to the blending plant and be under the control of the Buyer) and is also to furnish the necessary labor to load the drums from the warehouse on board cars for shipment; and the Seller is also to provide the necessary laboratory facilities to enable the inspector of the Buyer to take such samples and make such tests as may be required to permit him to determine the quality of the Fluid being delivered, and also provide office space—all without charge to the Buyer.

5. The Seller does not guarantee the yield of Ethyl Fluid to be realized from the raw materials furnished; and, except for losses due to its negligence, shall not be responsible for losses of raw, or finished, materials in connection with the blending; but all such losses shall be borne by the Buyer.

6. It is a condition of the fixing of the price of One Dollar and Seventy Three Cents (\$1.73) per hundred (100) pounds of Ethyl Fluid, that the Buyer shall cause the Seller to blend, at that price, not less than fourteen million, one hundred and twenty thousand (14,120,000) pounds; and the Buyer expressly agrees that if, whether by virtue of expiration of the above mentioned Tetraethyl Lead contract of March 31, 1928, or by exercise of the Buyer's option to terminate the present agreement, or by reason of any other contingency whatsoever, said minimum of fourteen million, one hundred and twenty thousand (14,120,000) pounds of Ethyl Fluid shall not have been blended and paid for at said rate of One Dollar

and Seventy Three Cents (\$1.73) per one hundred (100) pounds, in such event the Buyer will pay to the Seller an additional amount computed at the rate of seventy five cents (75¢) for each one hundred (100) pounds by which the amount of Ethyl Fluid blended under this agreement shall have fallen short of said minimum—such payment representing the unamortized portion of the cost of the blending plant and warehouse.

7. This agreement shall run with, and expire simultaneously with, the agreement for the purchase and sale of Tetraethyl Lead dated March 31, 1928, (except that the Buyer shall have the option of terminating this agreement at an earlier date on payment of the unamortized portion of Seller's blending plant and warehouse computed in the manner above mentioned).

Neither the Buyer nor the Seller shall be liable to the other for any failure of performance caused by fires, strikes, hurricanes or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to perform as to the quantities provided in this agreement but shall merely postpone performance, with the understanding however that no blending is to be done or called for after the cessation of the supply of Tetraethyl Lead under the agreement of March 31, 1928.

IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed

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and their respective corporate seals to be hereunto affixed  
on the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY,

By *W. F. Harrington*

General Manager—Dyestuffs Dept.

ATTEST:

*C. Copeland*

Secretary

ETHYL GASOLINE CORPORATION,

By *E. W. Webb*

President

ATTEST:

*A. E. Mitnacht*

Secretary

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NOTE: At lower right on all three pages is written  
"GMC-1015"; in the left margin, opposite the signatures  
on page 3, is written "o.k." followed by an illegible signa-  
ture. Italics indicate handwriting.

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ETHYL GASOLINE CORPORATION

with

E. I. DU PONT DE NEMOURS & COMPANY

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Agreement for Tetraethyl Lead

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Dated August 26, 1929.

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MEMORANDUM OF AGREEMENT made this 26th day of August, 1929,  
by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the  
State of Delaware, hereinafter referred to as the Seller, and  
ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter  
referred to as the Buyer.

**W I T N E S S E T H :**

WHEREAS the Buyer is now purchasing from the Seller its entire  
requirements of Tetraethyl Lead under an agreement dated the 31st day  
of March, 1928, and

WHEREAS at the date hereof 5,348,838 pounds of Tetraethyl Lead  
which the Buyer is bound to purchase (if required) under the terms of  
said agreement of March 31, 1928, has not been delivered to Buyer, and

WHEREAS it is the desire and intention of the parties hereto  
to terminate said agreement of March 31, 1928, and enter into a new  
contract for the purchase of said Tetraethyl Lead by the Buyer from the  
Seller for an additional period and to incorporate into said contract  
certain understandings, terms and conditions with reference to an  
increase in the capacity of the Tetraethyl Lead Plant of the Seller from  
the present rate of capacity of 800,000 pounds per month to a rate of  
capacity of 1,200,000 pounds per month, as hereinafter provided.

NOW, THEREFORE, in consideration of the premises and in con-  
sideration of the mutual covenants and agreements herein contained to be  
kept and performed by the parties hereto, they have agreed and by these  
presents do agree with each other as follows:

1. The agreement between the Buyer and the Seller dated  
March 31, 1928, shall be forthwith terminated and cancelled and each  
of the parties hereto does hereby release and discharge the other from  
any further performance thereunder, and from any and all claims based  
on or arising out of the same.

2. Seller agrees to sell and deliver to the Buyer, and the Buyer agrees to purchase, accept and receive from Seller, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which the Buyer shall require during the period beginning on the date hereof and ending as hereinafter provided; it being understood and agreed that in no event shall the Seller be required to deliver, nor the Buyer required to take, during said period, a total quantity in excess of 19,348,838 pounds, nor shall the Seller be required to make deliveries to the Buyer in excess of 800,000 pounds during any one month until the capacity of Seller's plant shall be increased as hereinafter provided.

3. So long as the total quantity of Tetraethyl Lead delivered hereunder shall not exceed 5,348,838 pounds, the price to be paid by the Buyer to the Seller therefor shall be determined in accordance with the quantities purchased according to the following table of prices, which prices shall be F.O.B. the plant of the Seller at Deepwater Point, New Jersey:

<u>Deliveries of Tetraethyl Lead in Pounds per Month</u>	<u>Price of Tetraethyl Lead in Cents per Pound of 100% Content</u>
Not less than 300,000 lbs. or more than 350,000 "	87¢
Not less than 350,000 lbs. or more than 400,000 "	85¢
Not less than 400,000 lbs. or more than 450,000 "	83¢
Not less than 450,000 lbs. or more than 500,000 "	81¢
Not less than 500,000 lbs. or more than 550,000 "	79¢
Not less than 550,000 lbs. or more than 600,000 "	77¢
In excess of 600,000 lbs.	75¢

It being understood and agreed that as, if, and when the total quantity of 5,348,838 pounds of Tetraethyl Lead shall be pur-

chased hereunder, pursuant to the prices above referred to, then the prices to be paid by the Buyer to the Seller thereafter shall be the following, until the Seller shall have increased its plant capacity as hereinafter provided:

<u>Deliveries of Tetraethyl Lead</u> <u>in pounds per month</u>	<u>Price of Tetraethyl Lead</u> <u>In Cents per Pound</u> <u>of 100% content</u>
Not less than 300,000 lbs. or more than 400,000 "	85¢
Not less than 400,000 lbs. or more than 500,000 "	80¢
Not less than 500,000 lbs. or more than 600,000 "	75¢
Not less than 600,000 lbs. or more than 700,000 "	71¢
Not less than 700,000 lbs. or more than 800,000 "	68¢
In excess of 800,000 lbs.	66¢

4. It is agreed that the Seller shall with reasonable promptness increase its manufacturing capacity to a total rated capacity of 1,200,000 pounds per month, and such additional capacity shall be available to the Buyer within eight months from the date hereof, and the obligations of Seller and Buyer in respect thereto shall be none other than as hereinafter specified.

5. (a) Buyer shall continue to purchase its entire requirements of Tetraethyl Lead from the Seller at the prices and upon the terms and conditions hereinafter referred to for the period ending July 1, 1931, or until 14,000,000 pounds of Tetraethyl Lead shall have been delivered by the Seller to the Buyer in addition to the 5,348,838 pounds referred to in Paragraph 3, above, whichever date shall be earlier reached, except as hereinafter mentioned.

(b) When the plant capacity of the Seller shall be increased to a total rated capacity of 1,200,000 pounds per month, as herein provided, and at least 5,348,838 pounds of Tetraethyl Lead shall have been delivered to Buyer hereunder, then the prices governing from said date throughout the life of this agreement shall be as hereafter set

forth in this paragraph, it being understood that in no event shall the Seller be required to deliver to Buyer in excess of 1,200,000 pounds of Tetraethyl Lead in any one month.

Deliveries of Tetraethyl Lead  
in Pounds per Month

Price of Tetraethyl Lead  
in Cents per pound  
of 100% Content

Not less than 300,000 lbs. or more than 400,000 "	87½
Not less than 400,000 " or more than 500,000 "	82½
Not less than 500,000 " or more than 600,000 "	77½
Not less than 600,000 " or more than 700,000 "	73
Not less than 700,000 " or more than 800,000 "	69½
Not less than 800,000 " or more than 900,000 "	67
Not less than 900,000 " or more than 1,000,000 "	65
Not less than 1,000,000 " or more than 1,100,000 "	63
Not less than 1,100,000 " or more than 1,200,000 "	62
Not less than 1,200,000 " or more than 1,300,000 "	61
In excess of 1,300,000 lbs.	60

(c) The foregoing prices shall be F.O.B. the plant of the Seller at Deepwater Point, New Jersey.

6. All Tetraethyl Lead purchased by the Buyer from the Seller hereunder shall have a pure Tetraethyl Lead content of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery within the meaning hereof, shall be delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, and invoices shall be rendered on the basis of such delivery.

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7. On account of the fact that Seller's Tetrasthyl Lead Plant is operated solely to provide the Buyer with its requirements, it is agreed that if during any calendar month such requirements shall be less than 300,000 pounds, then the Seller may at its option cease to operate such plant until such requirements shall be at least 300,000 pounds per month; it being understood in such event when the operation of such plant shall be resumed, the Seller will not be liable to the Buyer for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that the Seller's discretion in this regard shall be absolute and binding upon the Buyer.

8. Should the Seller be prevented from making or delivering Tetrasthyl Lead hereunder on account of any judicial decision, order or decree, or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of the Seller shall be suspended during such period of prevention, and the Buyer shall have the right to accept the corresponding quantities at a later date, or to cancel them entirely.

9. Neither the Buyer nor the Seller shall be liable to the other for any failure to deliver or accept Tetrasthyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, with the understanding, however, that the Seller shall not be obliged to make, nor the Buyer to accept, any deliveries after July 1, 1931, unless the termination of the contract

shall have been postponed in accordance with Paragraphs 7, 8 and/or 9 hereof, but in any event this agreement shall not continue beyond December 31, 1931.

IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed and their respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY,

ATTEST:

*Paul C. Galt*  
Secretary

By *M. H. Harrington* V.P.

*Ed. Korman*  
General Manager - Dyestuffs Dept.

KETOL GASOLINE CORPORATION

ATTEST: *Robert L. Smith* Secretary  
*E. W. Ewbank* President

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GENERAL MOTORS CORPORATION

BROADWAY AT 57TH STREET

NEW YORK, N. Y.

March 28, 1930.

Mr. Earle W. Webb, President,  
Ethyl Gasoline Corporation,  
25 Broadway,  
New York, N. Y.

My dear Mr. Webb:—

On the train last night coming back from Detroit Mr. Lammot duPont was telling me that they were under negotiations with you in connection with the fourth tetra-ethyl lead plan. He outlined to me some of the points which were being talked about back and forth and out of it came a suggestion which I am sending you herewith which may or may not be of some value to you, but I am sending it to you for what it may be worth. It is this:—

Mr. duPont stated, and I do not know how much he is informed in this particular thing, that the methods which they had developed in the manufacture of tetra-ethyl lead and the patents that they had obtained as a result of same, would make it very difficult for anyone else to accomplish the same result. As I said before, how effective the patents are or how controlling they are, I know nothing and you must appreciate that it was a very offhand remark. However, it gave me the thought that it was a consideration worth while and should be recognized as such, if it is true, in having the affect of extending the patent monopoly of tetra-ethyl lead. In other words, if tetra-ethyl lead had other elements that would come within the manufacturing processes and if it could only be produced through these

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processes, you naturally would see the advantage it would have for us. Furthermore than that, it seems to me that we ought to look forward, and I have no doubt that you are but, of course, I do not know that, and try to make our contracts so that the supplier of lead, the duPont Company now but perhaps the duPont Company together with others later on, would at all times sell to us exclusively or, in other words, should tetra-ethyl lead be a factor in the fuel situation at the time the patent expires and should there be no restrictions on the manufacturers as to whom they would sell the material to, the field would naturally be open and there would be no place in the picture for the Ethyl Gasoline Corporation, and should the manufacturing processes be such as to make the manufacture of the material open to all, naturally the situation would be that much more unsatisfactory.

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We might assume that by that time other things will come up but, naturally, as to this we do not know. As I said before, there may be nothing at all in these thoughts or way of thinking and even if there are you probably have already covered the same points as he—I can not say, not knowing—and I am simply sending them to you as no harm will be done in any event.

Very truly yours,

*Alfred P. Sloan, Jr.*

APSJr./K

NOTE: To right of address appears a stamp bearing the words "Read by" followed by the stamped initials "EWW", "AEM", "JCT", "EMW", "HWK" (there are no notations in the space provided opposite these stamped initials); italics indicate handwriting.

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ETHYL GASOLINE CORPORATION  
25 BROADWAY

NEW YORK April 3, 1930.

IN REPLY PLEASE REFER TO

Mr. Alfred P. Sloan, Jr., President,  
General Motors Corporation,  
1775 Broadway,  
New York, N. Y.

Dear Mr. Sloan:

About a month ago while carrying on negotiations with the duPont Company relative to a fourth lead plant, I told them I felt the time had arrived when we should be giving thought to conditions that might exist on the expiration of the Midgley patents—quite along the lines referred to in your letter of March 28th. The matter was referred to their attorneys and I took it up with your patent department. The opinion expressed was that an agreement—to accomplish the purpose we had in mind—would be looked upon with suspicion as an effort to perpetuate a patent monopoly beyond the life of the patent. There were so many conditions attached to the making of such a contract as to practically preclude it from present consideration, it seemed to me. Groping for something that would at least place us in a position to better meet competitive conditions that might confront us on the expiration of the patents, at a subsequent meeting with Mr. Robinson, General Manager of the Dyestuffs Department, and with whom I had been carrying on the negotiations, I made the following suggestion as the minimum we would expect—to be made a part of the contract relating to the fourth plant and as a consideration for our making it, viz: That inasmuch as

the lead now being manufactured by duPont was and had been manufactured under a process, the patent for which is controlled by Standard Oil Company (and through same we have the exclusive right to license others), and duPont was the only concern—by reason of being our exclusive supplier—that had had the chance to make improvements or refinements in connection with the process, that if we have continued to purchase at least fifty per cent of our requirements of lead from them, for each year, up to January 1, 1938, then duPont is to disclose fully to us any improvements they may have made in the art of manufacture and also to license us to manufacture under any patents they may have obtained in relation to said improvements or refinements; furthermore they shall each year thereafter disclose to us and license us so long as we purchase fifty percent of our requirements from them, but such obligation shall automatically terminate on failure to take that percentage in any year.

We have come to definite terms in all other respects so far as a fourth plant and our requirements to December 31, 1931, are concerned. The signing of the agreement is awaiting the inclusion of a clause to cover the suggestion above referred to, or something equally as favorable.

Certain objections have since been made by duPont Company to entering into such an arrangement, and I have told Mr. Robinson that unless we get some such provision I could not sign any agreement until the subject had been fully presented and passed upon by our Executive Committee. That it was something that had not been heretofore submitted to the Executive Committee but I felt confident the proposal was

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so reasonable that if it was not accepted we would be strongly tempted to seek another supplier (for a substantial percentage of our requirements) right away, licensing such

other supplier under the same patent with conditions perhaps more favorable as to future patent rights than we were presently requesting of duPont.

I have been advised today that some progress is being made by the duPonts in arriving at a conclusion in the matter that will probably not throw the subject into a controversy.

I think we are entitled to have such a provision in our contemplated contract for the fourth plant. The time is ripe; it contemplates a large quantity of lead required to December 31, 1931. Future developments and continuing business dealings with them may later result in more favorable terms being worked out. This I would expect, but for the present I believe we should be content with not less than that suggested.

At a meeting of our Executive Committee you and Mr. Howard authorized me to make the best contract I could with duPont for a fourth plant. This I have endeavored to do, and am acting under the assumption it will be acceptable to you for me to close same without further troubling you about it. However, I shall not do so without submitting the matter to you and Mr. Clark if duPont refuses to incorporate a provision substantially in line with the one above referred to.

Very truly yours,

*E. W. Webb*

A:H

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NOTE: To right of address is stamped "Received Apr. 4, 1930—A. P. Sloan, Jr."; a check mark is placed by hand above the date "28th" in the fourth line; lines in left margin are by hand; an illegible pencilled mark appears at upper right on first page; italics indicate handwriting.



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GENERAL MOTORS CORPORATION

BROADWAY AT 57TH STREET

NEW YORK, N. Y.

April 5, 1930.

Mr. Earle W. Webb, President,  
Ethyl Gasoline Corporation,  
25 Broadway,  
New York, N.Y.

My dear Mr. Webb:—

I have your letter of April 3rd. In reply would state that I have not given the matter the very complete consideration and thought that of course you have, therefore, any expression of opinion that I might give would have to be considered more or less of a superficial character and is only submitted with that point of mind.

You say in your letter that a certain agreement might be looked upon with suspicion as an effort to perpetuate a patent monopoly beyond the life of the patent. Be that as it may or rather assuming that is true, I see no reason why we should not proceed in exactly that direction. In other words, as I take it, there is no reason whatsoever why it is not morally correct to keep patenting improvements as the art develops and in that way protect one's position as long as one can beyond the life of a patent which might have originally started the business. Furthermore than that, it seems to me right in line with this that in view of the fact that the patent under which duPont operates belongs to Ethyl Gasoline Corporation in principle and that they are the sole licensee, we should certainly expect them to turn back to us improvements which logically develop through the working of the patent. You of course know as well as I do that it is quite customary when people like ourselves, for instance, be-

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come a licensee to turn back, to support the patent position, improvements which develop through the working of the patent. Perhaps I do not get your idea fully but the point I want to make is—that I think it is perfectly all right to perpetuate the patent as long as we can; that it is not only morally right but that it is our duty to our interests to do that very thing. I might add further that I should feel quite strongly on this point in the absence of any argument that might modify my opinion of course but, naturally, in this particular case in view of the fact that we are dealing with the duPont Company, with whom we are associated, I recognize that irrespective of how the contract might be worded that their interests will surely be and must be to protect any position that seems equitable to us.

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The second point is—that I have no objection to making a contract to purchase 50% of our requirements of lead from duPont indefinitely because I think they are entitled to that consideration and, frankly, I would rather see them get the business if they can as I believe they can and will make us a price as low as we can purchase for elsewhere.

In other words, all things considered, I feel that due to our association and everything else, that that is no more than equitable. After all it must be recognized that they have done an excellent job in handling this difficult problem. They have worked it out with the result that the cost of lead has been continually coming down. The health hazard certainly must have been covered and altho perhaps Mr. Howard does not agree with me or go as far as I will go, yet it must be recognized that if they had had the business in the beginning we would have really been better off today.

The only point I have to make on this 50% idea is—that I will go further and say that irrespective of any agreement

to give them 50%, in which I am thoroughly in accord as I said before and repeat for emphasis, I feel strongly that we are entitled to the improvements without any agreement that developed as a result of the working of the patent. If they were clever enough to develop an entirely new process that was much more economical and therefore had to be used, that would be quite a different consideration, but even so I think we would be entitled to some consideration due to the fact that the development must have worked out indirectly through the application of the original patent but, naturally, there would be equities there which I do not think belong to them under the present circumstances.

Thanks for your letter.

Very truly yours,

*Alfred P. Sloan Jr.*

APSJr./K

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NOTE: Beneath the date is the stamp bearing the words "Read by" followed by the stamped initials "E.W.W." "A.E.M.", "J.C.T.", "E.M.W.", and "H.W.K."; in the space provided opposite the initials "A.E.M." is written the initial "M"; slightly to the left of and below the letterhead appears a small pencilled bracket mark; italics indicate handwriting.

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GENERAL MOTORS CORPORATION  
BROADWAY AT 57TH STREET  
NEW YORK, N. Y.

April 18, 1930.

Mr. Lammot duPont,  
E. I. duPont deNemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

Mr. Webb came in to see me yesterday to discuss various matters regarding the operating problems facing Ethyl Gasoline Corporation and among other things we discussed the relations with the duPont Company. There is one phase of those relations that I simply want to mention to you so that you may have it in mind.

While the fundamental patent on which Ethyl Gasoline predicates its business has twelve years yet to run, and while it is not at all unlikely and, in my personal opinion, probable that through research ways and means will be developed to control the anti-knock qualities of the fuel which will require a reappraisal of tetra-ethyl lead so far as its future contribution to the picture is concerned, nevertheless we should, of course, do everything that we can to so protect our position so that in the event that tetra-ethyl lead has a real place for an indefinite future, we should place ourselves in a position where we can carry on as near as possible to the way we are carrying on at present so far as an exclusive privilege is concerned.

Altho I am not specifically advised, I take it that through the experience that your organization has already had and will continue to have in the manufacture of tetra-ethyl lead

itself that processes, perhaps patentable and perhaps other-  
around

wise, will be developed which could be built a picture which would serve, in principle, to prolong the exclusive privilege that Ethyl Gasoline now has beyond the life of the fundamental patent.

I mentioned this to Mr. Webb and thought there would be no harm in mentioning it to you so that everything could be done to throw protection around such processes as you are developing. It also seems very essential that the manufacturer be confined to one source of supply. I am sure that the duPont Company and the Ethyl Gasoline Corporation can work together with such satisfaction and with such confidence in one another that no thought can be given

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to anything different than a single source of supply. If the present source of supply was not the duPont Company I should feel that our future, after the expiration of our patent, was rather hazardous because, naturally, Ethyl Gaso-

line Corporation per se can make no contribution to the picture beyond the establishment of the idea, which it has done I am sure you will agree with me very successfully unless it is protected by the exclusive use of tetra-ethyl lead as applied to anti-knock purposes.

Mr. Webb showed me a letter addressed to him\* in which it has been agreed on the part of your organization, that you would work out with Mr. Webb a modification of a certain clause in the recently signed contract so that a better understanding could be reached between the two organizations on the above point. If you can do anything to facilitate this and broaden the base upon which it is developed, I am sure it will be helpful and may be of very important indirect



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benefit to the duPont organization on account of their indirect interest in the future profits of Ethyl Gasoline Corporation even irrespective of their own direct future profits in tetra-ethyl lead.

*\* Evidently E.G.R.'s letter of 3/14/30, referring to contract finally worked out and signed in April as of 2/26/30.*

Very truly yours,

*Alfred P. Sloan Jr.*

APSJr./K

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NOTE: At lower right on both pages is written "GMC-587"; at upper left is written "7. EGR Copy to Mr. E. G. Robinson" beneath all of which is drawn a line; at upper right is written "GM-9"; beneath the letterhead is stamped "Received Apr 10, 1930—Lammot du Pont"; marginal line and asterisks on second page are by hand; italics indicate handwriting.

4588

MEMORANDUM OF AGREEMENT made this 26th day of February, 1930, by and between E. I. duPONT de NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "DuPont", and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "Ethyl".

**W H E R E A S :**

WHEREAS, Ethyl is now purchasing from DuPont, under an agreement dated the 26th day of August, 1929, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company (now Standard Oil Development Company), and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

U. S. Patent No. 1,612,151 - Kraus and Callis -  
"Making Metalle-Organic Compounds",

U. S. Patent No. 1,639,947 - Kraus and Callis -  
"Art of Making Metalle-Organic Compounds",

U. S. Patent No. 1,697,245 - Kraus and Callis -  
"Art of Preparing Metalle-Organic Compounds"; and

WHEREAS, Ethyl desires to grant to DuPont a non-exclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel (license to make, use and sell Tetraethyl Lead for all other purposes having been granted by Ethyl to DuPont under an agreement dated November 11, 1929); and

WHEREAS, at the date hereof 12,881,228 pounds of Tetraethyl Lead which Ethyl is bound to purchase (if required) under the terms of said agreement of August 26, 1929, has not been delivered to Ethyl, and

WHEREAS, it is the desire and intention of the parties hereto to terminate said agreement of August 26, 1929, and to enter

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into a new contract for the purchase of said Tetraethyl Lead by Ethyl from DuPont for an additional period and to incorporate into said contract certain understandings, terms and conditions with reference to an increase in the capacity of the Tetraethyl Lead Plant of DuPont from the present rate of capacity of 2,000,000 pounds per month to a rate of capacity of 2,750,000 pounds per month, as hereinafter provided.

NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these presents do agree with each other as follows:

1. The agreement between Ethyl and DuPont dated August 28, 1929, shall be forthwith terminated and cancelled and each of the parties does hereby release and discharge the other from any further performance thereunder, and from any and all claims based on or arising out of the same.

2. Ethyl hereby grants to DuPont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent hereinbefore listed.

3. DuPont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from DuPont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the period beginning on the date hereof and ending as hereinafter provided; it being understood and agreed that in no event shall DuPont be required to deliver, nor Ethyl be required to take, during said period, a total quantity in excess of 51,000,000 pounds, nor shall DuPont be re-

quiped to make deliveries to Ethyl in excess of 1,600,000 pounds during the month of March, 1930, or of 1,800,000 pounds during any one month thereafter until the capacity of DuPont's plant shall be increased as hereinafter provided.

4. So long as the total quantity of Tetraethyl Lead delivered hereunder shall not exceed 12,681,228 pounds, the price to be paid by Ethyl to DuPont therefor shall be determined in accordance with the quantities purchased according to the following table of prices, which prices shall be f.o.b. the plant of DuPont at Deepwater Point, New Jersey:

<u>Deliveries by DuPont and/or orders for delivery by Ethyl of Tetraethyl Lead in Pounds per Month</u>	<u>Price of Tetraethyl Lead in Cents per pound of 100% Con- tent</u>
Less than 900,000 lbs.	67¢
Not less than 900,000 lbs. or more than 1,000,000 "	66¢
Not less than 1,000,000 lbs. or more than 1,100,000 "	65¢
Not less than 1,100,000 lbs. or more than 1,200,000 "	64¢
Not less than 1,200,000 lbs. or more than 1,300,000 "	63¢
Not less than 1,300,000 lbs. or more than 1,400,000 "	62¢
Not less than 1,400,000 lbs. or more than 1,500,000 "	61¢
Not less than 1,500,000 lbs. or more than 1,600,000 "	60¢
Not less than 1,600,000 lbs. or more than 1,750,000 "	59¢
Not less than 1,750,000 lbs. or more than 2,000,000 "	58¢

5. It is agreed that DuPont shall with reasonable promptness increase its manufacturing capacity to a total rated capacity of 2,750,000 pounds per month, and such additional capacity shall be available to Ethyl within eight months from the date hereof, and the obligations of DuPont and Ethyl in respect thereto shall be none other than as hereinafter specified.

6. (a) Ethyl shall continue to purchase its entire requirements of Tetraethyl Lead from DuPont at the prices and upon



the terms and conditions hereinafter referred to for the period ending December 31, 1931, or until 30,310,772 pounds of Tetraethyl Lead shall have been delivered by DuPont to Ethyl in addition to the 12,001,228 pounds referred to in Paragraph 4, above, whichever date shall be earlier reached, except as hereinafter mentioned.

(b) After the date when 12,001,228 pounds of Tetraethyl Lead shall have been delivered to Ethyl hereunder, then the prices governing from said date throughout the life of this agreement shall be as hereafter set forth in this paragraph, it being understood that in no event shall DuPont be required to deliver to Ethyl in excess of 2,475,000 pounds of Tetraethyl Lead in any one month.

<u>Deliveries by DuPont and/or orders for delivery by Ethyl of Tetraethyl Lead in Canada per Month</u>	<u>Price of Tetraethyl Lead in Cents per pound of 100% Content</u>
Less than 1,500,000 lbs.	80¢
Not less than 1,500,000 lbs. or more than 2,000,000 "	87¢
In excess of 2,000,000 lbs.	88¢

(c) The foregoing prices shall be f.o.b. the plant of DuPont at Deepwater Point, New Jersey.

(d) Whereas, there is now a proposal before the United States Senate to increase the duty on Black Strap molasses to 8¢ per gallon, and whereas it requires 2.6 gallons of molasses to produce one gallon of alcohol, and whereas this amounts to 20.8¢ per gallon increase on alcohol or approximately 8¢ per pound of alcohol, and whereas it requires approximately one pound of alcohol to manufacture one pound of Tetraethyl Lead, therefore it is agreed that should this duty on Black Strap molasses be imposed or any other greater or less duty, then for each cent duty hereafter imposed on Black Strap molasses, the price of Tetraethyl Lead shall be increased 0.375¢ per pound, from the date that such duty becomes effective and until it shall be subsequently repealed or modified. This adjustment shall not apply to Tetraethyl Lead manufactured from molasses on which such duty has not been paid.

7. All Tetraethyl Lead purchased by Ethyl from DuPont hereunder shall have a pure Tetraethyl Lead content of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery within the meaning hereof shall be delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, and invoices shall be rendered on the basis of such delivery.

8. On account of the fact that DuPont's Tetraethyl Lead Plant is operated solely to provide Ethyl with its requirements, it is agreed that if during any calendar month such requirements shall be less than 800,000 pounds, then DuPont may at its option cease to operate such plant until such requirements shall be at least 800,000 pounds per month; it being understood in such event when the operation of such plant shall be resumed, DuPont will not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that DuPont's discretion in this regard shall be absolute and binding upon Ethyl.

9. Should DuPont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree, or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of DuPont shall be suspended during such period of prevention, and Ethyl shall have the right to accept the corresponding quantities at a later date, or to cancel them entirely.

10. Neither party shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is

caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, with the understanding, however, that in the event of failure to perform by reason of a condition beyond either party's control above-mentioned, then DuPont shall not be obliged to make, nor Ethyl to accept, any deliveries after July 1, 1932, unless the termination of the contract shall have been postponed further in accordance with Paragraphs 8 and 9 hereof, but in any event this agreement shall not continue beyond December 31, 1932.

11. Each of the parties agrees that it shall disclose Etk fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from DuPont, upon terms mutually satisfactory to the parties, at least fifty per cent. of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1931, the aforesaid obligation on the part of each of Etk



the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from DuPont at least fifty per cent. of all of said product or products which it shall require in its business for the calendar year commencing January 1, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by ~~the parties to the other~~ pursuant to the terms of this agreement shall thereupon expire, cease and determine. The termination of this agreement as provided elsewhere herein shall not affect the undertakings set forth in this paragraph. *Such licenses shall be without royalty.*

IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed and their respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. duPONT de NEMOURS & COMPANY

ATTEST:

*W. D. Fisher*  
Secretary

By

*E. J. Robinson*  
Genl Mgr. Exptl. Dept. Corp.

ETHYL GASOLINE CORPORATION

ATTEST:

*W. H. Mettman*  
Secretary

By

*E. J. Webb* President



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MEMORANDUM OF AGREEMENT made this 26th day of September, 1931, by and between E. I. DUPONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "DuPont", and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "Ethyl".

WITNESSETH:

WHEREAS, Ethyl is now purchasing from DuPont, under an agreement dated the 26th day of February, 1930, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company and/or Standard Oil Development Company, and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

U.S. Patent No. 1,612,131—Kraus and Callis—"Making Metallo-Organic Compounds",

U.S. Patent No. 1,639,947—Kraus and Callis—"Art of Making Metallo-Organic Compounds",

U.S. Patent No. 1,697,245—Kraus and Callis—"Art of Preparing Metallo-Organic Compounds"; and

WHEREAS, Ethyl desires to grant to DuPont a non-exclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel; and

WHEREAS, at the date hereof 25,140,000 pounds of Tetraethyl Lead which Ethyl is bound to purchase (if

required ) under the terms of said agreement of February 26, 1930, has not been delivered to Ethyl, and

WHEREAS, it is the desire and intention of the parties hereto to complete delivery up to December 31, 1931, under the terms of said agreement of February 26, 1930, and to enter into a new

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contract for the purchase of said Tetraethyl Lead by Ethyl from DuPont for an additional period and to incorporate into said contract certain understandings, terms and conditions with reference to prices and corresponding quantities of Tetraethyl Lead to be delivered during the period January 1st, 1932 to June 30, 1934 inclusive, and also maximum quantities to be delivered, with and without due notice:

NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these presents do agree with each other as follows:

1. Ethyl hereby grants to duPont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent herein before listed.

2. DuPont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from duPont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the period beginning January 1st, 1932 and ending June 30th, 1934;

it being understood and agreed that in no event shall duPont be required to deliver, during said period, more than 4,000,000 pounds in any one month, subject to due notice, as follows: For quantities in excess of 2,000,000 pounds monthly, two months; in excess of 3,000,000 pounds monthly, three months.

3. For the period beginning January 1st, 1932 and ending December 31st, 1932, the price shall be 47 cents per pound, provided the monthly delivery by duPont to Ethyl is not less than 1,000,000 pounds; for monthly deliveries of less than 1,000,000 pounds, the price shall be 49 cents per pound; and provided also, that in case total deliveries exceed 20,000,000 pounds for the calendar year, the

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price shall be adjusted to 46 cents per pound for deliveries in every fiscal month (26th to 25th inclusive) in which the quantity delivered has not been less than 1,000,000 pounds.

For the period beginning January 1st, 1933 and ending December 31st, 1933, the price shall be 45 cents per pound, provided the monthly delivery by duPont to Ethyl is not less than 1,000,000 pounds; for monthly deliveries of less than 1,000,000 pounds, the price shall be 46 cents per pound; and provided also, that in case total deliveries exceed 20,000,000 pounds for the calendar year, the price shall be adjusted to 44 cents per pound for deliveries in every fiscal month (26th to 25th inclusive) in which the quantity delivered has not been less than 1,000,000 pounds.

For the period beginning January 1st, 1934 and ending June 30, 1934, the prices and conditions shall be the same as for the calendar year 1933, with the following exceptions;

in case total sales by duPont to Ethyl exceed 9,000,000 pounds for the first 6 months of 1934, the price shall be adjusted to 43 cents per pound for deliveries in every fiscal month in which the quantity delivered has been not less than 1,000,000 pounds; in case total sales by duPont to Ethyl equal or exceed 12,000,000 pounds for the first 6 months of 1934 the price shall be adjusted to 42 cents per pound for deliveries in every fiscal month in which the quantity delivered has been not less than 1,000,000 pounds.

4. All Tetraethyl Lead purchased by Ethyl from duPont hereunder shall have a pure Tetraethyl Lead content of at least 97%, any payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery within the meaning hereof shall be delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, and invoices shall be rendered on the basis of such delivery.

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5. On account of the fact that duPont's Tetraethyl Lead Plant is operated solely to provide Ethyl with its requirements, it is agreed that if during any calendar month such requirements shall be less than 800,000 pounds, then duPont may at its option cease to operate such plant until such requirements shall be at least 800,000 pounds per month; it being understood in such event when the operation of such plant shall be resumed, duPont shall not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood



that duPont's discretion in this regard shall be absolute and binding upon Ethyl. It is understood that if during any calendar month requirements shall be less than 800,000 lbs. the parties hereto may mutually agree upon a selling price for tetraethyl lead that will justify duPont's continuing to operate its plant at such smaller rate of production instead of exercising its option temporarily to discontinue manufacture.

6. Should duPont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree, or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of duPont shall be suspended during such period of prevention, and Ethyl shall have the right to accept the corresponding quantities at a later date, or to cancel them entirely.

7. Neither party shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, (Including the causes set forth in Paragraph 7 hereof), but the party affected shall use due diligence

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to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, provided, however, that such postponement shall in no event operate to extend this agreement beyond July 1, 1936.

8. Each of the parties agrees that it shall disclose fully to the other, as of January 1st, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from duPont, upon terms mutually satisfactory to the parties, at least fifty per cent of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1st, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from duPont at least fifty per cent of all of said product or products which it shall require in its business for the calendar year commencing January 1st, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall

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thereupon expire, cease and determine. The termination of this agreement as provided elsewhere herein shall not affect

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the undertakings set forth in this paragraph. Such licenses shall be without royalty.

IN WITNESS WHEREOF, the parties hereto by their officers duly authorized have caused this agreement to be executed and their respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By *E. G. Robinson*

General Manager, Dyestuffs Dept.

[CORPORATE SEAL]

ATTEST:

*E. A. Howard*

Assistant Secretary

ETHYL GASOLINE CORPORATION

By *E. W. Webb, President*

[CORPORATE SEAL]

ATTEST:

*A. E. Mitnacht*

Secretary

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NOTE: At lower right on all pages is written "GMC-1004"; italics indicate handwriting.

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MEMORANDUM OF AGREEMENT made this 18th day of August, 1933 by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "DuPont", and ETHYL GASOLINE CORPORATION, also a Delaware Corporation, herinafter referred to as "Ethyl".

W I T N E S S E T H :

WHEREAS, Ethyl is now purchasing from DuPont, under an agreement dated the 26th day of September, 1931, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company and/or Standard Oil Development Company, and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

U. S. Patent No. 1,612,131—Kraus and Callis—  
"Making Metallo-Organic Compounds",  
U. S. Patent No. 1,639,947—Kraus and Callis—  
"Art of Making Metallo-Organic Compounds",  
U. S. Patent No. 1,697,245—Kraus and Callis—  
"Art of Preparing Metallo-Organic Compounds"; and

WHEREAS, Ethyl desires to grant to DuPont a non-exclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel; and

WHEREAS, it is the desire and intention of the parties hereto to enter into a new contract for the purchase of said Tetraethyl Lead by Ethyl from DuPont and to incorporate into said contract certain understandings, terms and condi-

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tions with reference to prices and quantities of Tetraethyl Lead to be delivered by DuPont to Ethyl during the period from the effective date of this agreement to December 31, 1934.

NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these presents do agree with each other as follows:

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1. Ethyl hereby grants to DuPont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent hereinbefore listed.

2. DuPont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from DuPont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the period beginning on the effective date of this agreement and ending December 31, 1934.

3. For the period beginning upon the effective date of this agreement and ending December 31, 1933, the price shall be thirty-six cents (36¢) per pound. For the period beginning January 1, 1934 and ending December 31, 1934, the price shall be thirty-six cents (36¢) per pound, unless the total quantity taken during said period shall exceed 24,000,000 pounds, in which event the price for all Tetraethyl Lead purchased during the year 1934 shall be thirty-five cents (35¢) per pound. Provided, however, that if any

Tetraethyl Lead purchased by Ethyl hereunder shall be sold by it for use in premium gasoline to any class of customers (as for example, at present, its West Coast customers) at a price higher than its then prevailing level of prices to other customers for Tetraethyl Lead for use in premium gasoline, the price to be paid to DuPont hereunder for the quantity of Tetraethyl Lead so sold shall be forty two cents (42¢) per pound.

4. The term "premium" gasoline shall be any gasoline concerning which the trade-name "Ethyl" shall be used in any manner, as well as all grades of gasoline sold by any vendor, producer or refiner for which, on account of any special treatment, a higher efficiency is claimed, including so-called high test and anti-knock varieties of gasoline, such as Ethyl gasoline, Esso and like competitive grades for which a price is charged in excess of the price for regular standard gasoline manufactured or sold by any vendor, producer or refiner. The

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term "non-premium" gasoline shall include all gasolines, other than "premium" gasoline, as herein defined.

5. If, upon the effective date of this agreement, DuPont shall have on hand or shall have commitments for any Ethyl chloride purchased at the request or with the approval of Ethyl the cost of which has not been amortized in the manner referred to in DuPont's letter to Ethyl dated May 15, 1933, then Ethyl shall pay to DuPont in addition to all other charges hereunder four cents (4¢) for each pound of such Ethyl chloride.

6. All Tetraethyl Lead purchased by Ethyl from DuPont hereunder shall have a pure Tetraethyl Lead con-

tent of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey shall constitute delivery and invoices shall be rendered on the basis of such delivery.

7. On account of the fact that DuPont's Tetraethyl Lead Plant is operated solely to provided Ethyl with its requirements, it is agreed that if during any calendar month such requirements shall be less than 800,000 pounds, then DuPont may at its option cease to operate such plant until such requirements shall be at least 800,000 pounds per month; it being understood in such event when the operation of such plant shall be resumed, DuPont shall not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that DuPont's discretion in this regard shall be absolute and binding upon Ethyl. It is understood that if during any calendar month requirements shall be less than 800,000 lbs. the parties hereto may mutually agree upon a selling price for Tetraethyl Lead that will justify DuPont's continuing to operate

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its plant at such small rate of production instead of exercising its option temporarily to discontinue manufacture.

8. The prices of Tetraethyl Lead hereinabove referred to shall be increased 8/10¢ per. pound for each 1¢ by which the cost of pig lead delivered at DuPont's Plant and used

in the manufacture of Tetraethyl Lead for Ethyl shall exceed 5¢ per pound, and said prices shall likewise be increased .12¢ per pound for each cent by which the tank car market price, f.o.b. DuPont's Deepwater Plant, of alcohol, used in the manufacture of said Tetraethyl Lead by DuPont for Ethyl's account, plus any taxes, duties or other charges which may be levied on the importation, production and/or use thereof shall exceed thirty cents (30¢) per gallon; with proportionate increases for any fraction of 1¢ by which said cost of lead and alcohol shall be increased; and it is likewise understood and agreed that any increase in the cost to DuPont of Tetraethyl Lead sold hereunder on account of taxes, duties, excises or other charges imposed by any government upon the sale, production or delivery thereof or any materials used in the manufacture thereof and paid by DuPont or embodied in the cost to DuPont of said Tetraethyl Lead as well as any increased labor costs made compulsory on the part of DuPont by reason of any State or Federal legislation shall be added to the foregoing prices; it being understood that in no event shall the provision of this Paragraph 8 operate to increase the price of Tetraethyl Lead delivered hereunder by more than four cents (4¢) per pound.

9. It is further understood and agreed that DuPont's prices for Tetraethyl Lead sold to Ethyl hereunder are based upon Ethyl's present schedule of prices to its customers, namely, thirty five cents (35¢) per 100 cc for all purposes, plus an additional charge for Tetraethyl Lead sold for use in premium gasoline of twenty cents (20¢) per 100 gallons of gasoline for all except West Coast customers and forty two and one-half cents (42-1/2¢) per 100 gallons of gasoline for West Coast customers. If, and when, the above prices



to its customers are increased by Ethyl, it is agreed that DuPont's prices hereunder for Tetraethyl Lead shall be proportionately increased.

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10. Notwithstanding anything herein contained to the contrary, it is understood and agreed that in no event shall DuPont be required to deliver or Ethyl to take Tetraethyl Lead hereunder in excess of the capacity of DuPont's plant for the production of Tetraethyl Lead at Deepwater Point, New Jersey, as of the date of execution hereof, and should DuPont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree, or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of DuPont shall be suspended during such period of prevention, and Ethyl shall have the right to accept the corresponding quantities at a later date, or to cancel them entirely.

11. Neither party shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto, (including the causes set forth in Paragraph 10 hereof), but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, provided, however, that such postponement shall in no event operate to extend this agreement beyond July 1, 1936.

12. Each of the parties agrees that it shall disclose fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under

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any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from DuPont, upon terms mutually satisfactory to the parties, at least fifty per cent of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from DuPont at least fifty per cent of all of said product or products which it shall require in its business for the calendar year commencing January 1, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall thereupon expire, cease and determine. The termination of this agreement as provided elsewhere herein shall not affect the

undertakings set forth in this paragraph. Such licenses shall be without royalty.

13. The effective date of this agreement shall be the 17th day of July, 1933, and from and after such date the agreement of September 26, 1931, hereinabove referred to as well as all writings and agreements supplemental thereto, shall be canceled and terminated, except with respect to any right, duty or obligation arising prior to the date of cancellation.

IN WITNESS WHEREOF, the parties hereto, by their officers, duly authorized, have caused this agreement to be executed and their respective corporate seals to be hereunto affixed the day and year first above written.

[CORPORATE SEAL]

E. I. DU PONT DE NEMOURS & COMPANY,

By *W. F. Harrington*

*Vice President*

ATTEST:

*M. D. Fisher*

*Ass't Sec'y*

E. G. R.

ETHYL GASOLINE CORPORATION,

By *E. W. Webb* *President*

ATTEST:

[CORPORATE SEAL]

*A. E. Mittnacht*

NOTE: At lower right of all pages is written "GMC-1005c"; underlining beneath date on page 3 is by hand; to the left of signatures on last page are written, in the margin, the initials "E.G.R."; at the bottom of the last page is an obscure stamp (apparently a mirror image of the date August 22, 1933 with two left handed check marks); italics indicate handwriting.

4610

SUPPLEMENTAL AGREEMENT made this 22nd day of December, 1933, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, herein-after referred to as DuPont, and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, herein-after referred to as Ethyl.

WITNESSETH:

WHEREAS on the 29th day of May, 1930, the parties hereto entered into an agreement in writing providing for the blending of tetraethyl lead fluid upon terms and conditions which will more fully and at large appear by reference to said agreement of May 29, 1930, and

WHEREAS Paragraph Third of said agreement of May 29, 1930, provided for the payment of twenty two cents (22¢) per one hundred (100) pounds by Ethyl to DuPont for all tetraethyl lead fluid blended by DuPont pursuant to the terms and conditions thereof, as well as an additional charge of fifty cents (50¢) per drum for loading the same into drums, which prices have heretofore been reduced in accordance with DuPont's letter of July 28, 1932, and Ethyl's letter of August 3, 1932, and

WHEREAS Paragraph Fourth of said agreement provided for the payment of thirty cents (30¢) per one hundred (100) pounds of ethyl fluid blended under said agreement in addition to the charges enumerated in Paragraph Third, which charge of thirty cents (30¢) per one hundred (100) pounds was to continue until DuPont's entire investment for blending equipment had been fully amortized, and

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WHEREAS said investment for blending equipment has been fully amortized and said thirty cents (30¢) charge under said Paragraph Fourth has been discontinued, and

WHEREAS it is the desire and intention of the parties hereto that DuPont shall continue the blending of tetraethyl lead

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purchased by Ethyl from DuPont.

NOW, THEREFORE, the parties have agreed and by these presents do agree with each other as follows:

1. DuPont and Ethyl agree that effective May 1, 1933, all tetraethyl lead purchased by Ethyl under its agreements of September 26, 1931, and/or August 18, 1933, shall be blended into ethyl fluid by DuPont upon the same general terms and conditions contained in said agreement of May 29, 1930, except as herein otherwise provided; in no event, however, shall DuPont be required to blend such tetraethyl lead in excess of the capacity of its plant at the time.

2. The price which Ethyl shall pay to DuPont for all tetraethyl lead blended by DuPont for Ethyl shall be nineteen cents (19¢) per one hundred (100) pounds of Ethyl Fluid blended and loaded into tank cars or tank motor trucks with an additional charge of fifty cents (50¢) per drum for all Ethyl Fluid loaded into drums.

3. In consideration of the fact that DuPont has been requested by Ethyl to install additional blending equipment, costing approximately Eighteen Thousand

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Dollars (\$18,000.00), which equipment is necessary for the production and storage of Ethyl Fluid, Ethyl agrees to pay DuPont, in addition to the charges referred to above, three cents (3¢) per one hundred (100) pounds for all Ethyl Fluid blended by DuPont, which charge shall be effective until DuPont's investment for said additional blending equipment shall be fully amortized. Should the amount of said investment exceed the sum of Eighteen Thousand Dollars (\$18,000.00), or if said three cents (3¢) rate is insufficient, the foregoing rate of amortization will be adjusted in accordance with the agreement of the parties; it being the intention hereof that a schedule of payments will be arranged so that

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the cost of such additional equipment shall be fully amortized on December 31, 1934, and if any part of said equipment shall be unamortized on said date, Ethyl shall pay to DuPont an amount equal to the deficiency.

4. Ethyl agrees to pay to DuPont, in addition to all other charges herein referred to, a further charge of one cent (1¢) per one hundred (100) pounds on all Ethyl Fluid blended by DuPont for the account of Ethyl on and after May 1, 1933, and in consideration of said payment, it is agreed that DuPont shall assume and bear fifty per cent (50%) of all losses of Ethyl Fluid by spilling or otherwise, which shall occur subsequent to May 1, 1933, in DuPont's blending plant and shall be of such a character that such losses might or could have been avoided by the exercise of ordinary care; it being understood and agreed, however, that DuPont shall in no event be liable during the period for which this Article is in effect for any amount in excess of twice the amount received by DuPont during such period

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under the terms and conditions of this Paragraph. It is hereby expressly agreed that all losses occurring in excess of said amount are hereby assumed by Ethyl, regardless of the cause thereof; it being understood and agreed, however, that the provisions of this Article 4 shall not be effective or binding on either party subsequent to November 1, 1933.

5. Any increase in the cost to DuPont of the services contemplated by this agreement, caused by taxes, excises or other charges imposed by any government upon said services shall be added to the prices hereinbefore referred to.

6. Except as herein otherwise provided, said tetraethyl fluid shall be blended by DuPont and the rights of the parties hereto shall be governed generally under the terms and conditions set forth in the agreement of May 29, 1930, and particularly paragraphs 2, 5, 6, 7, 8 and 10 of said agreement shall remain in

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full force and effect, except as herein altered or modified, it being herein expressly agreed that DuPont's obligation under Paragraph 1 of said agreement has been fully completed and discharged and that tank motor trucks shall be treated to all intents and purposes, the same as tank cars within the meaning of the agreement of May 29, 1930.

7. Except as herein otherwise provided, the life of this agreement and said agreement of May 29, 1930, shall be co-extensive with the life of the license and sales agreement entered into between the parties hereto on August 18, 1933.

IN WITNESS WHEREOF the parties hereto, by their officers, duly authorized, have caused this agreement to be

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executed and their respective corporate seals to be hereunto  
affixed the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY,

By *W. F. Harrington*

Vice-President.

ATTEST:

*M. D. Fisher*

Asst Secretary.

ETHYL GASOLINE CORPORATION,

By *A. E. Mittnacht*

Sect'y. & Treas.

ATTEST:

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NOTE: At lower right on all pages is written "GMC-1014"; in the margin to the left of the signatures on the last page are written three sets of initials of which two are illegible and the third is "E. G. R."; italics indicate hand-writing.



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THIS AGREEMENT made this 29th day of May, 1930, between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter called the Seller, and ETHYL GASOLINE CORPORATION, a corporation of the State of Delaware, hereinafter called the Buyer.

WITNESSETH:

WHEREAS, the Buyer purchases its requirements of Tetraethyl Lead from the Seller, under an Agreement dated February 26, 1930, which Tetraethyl Lead is manufactured by the Seller in its plant at Deepwater Point, New Jersey; and

WHEREAS, under separate agreements entered into prior to the date hereof, the Seller has also blended the Tetraethyl Lead sold to the Buyer with other materials, viz; Ethylene-di-bromide and/or other substances to place such Tetraethyl Lead in commercially marketable form known as Ethyl Fluid, the Seller being particularly fitted to perform such services in consequence of the recommendation of the Surgeon General of the United States that said blending operation should be conducted at a point adjacent to the point of manufacture of said Tetraethyl Lead; and

WHEREAS, it is necessary and desirable that the present capacity of the Seller's blending plant at Deepwater Point, New Jersey, be increased so that said plant will have a total capacity of approximately five million (5,000,000) pounds of Ethyl Fluid per month;

NOW, THEREFORE, the Parties hereto have agreed and by these presents do agree with each other as follows:

FIRST: The Seller agrees that with reasonable despatch after the execution hereof, it will make all necessary installations in its said blending plant to increase the capacity

of the same so that said plant will have a total capacity of five million

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(5,000,000) pounds of Ethyl Fluid per month, and the Seller shall also install four (4) storage tanks at said plant with a total capacity of approximately five hundred and sixty thousand (560,000) gallons of Ethyl Fluid, together with sufficient and suitable facilities for the loading of the Buyer's tank cars.

SECOND: Seller and Buyer agree that all Tetraethyl Lead purchased by the Buyer under its Agreement with the Seller dated February 26, 1930, shall be blended into Ethyl  
Seller

Fluid by the ~~Buyer~~ provided that in no event shall the Seller be required to blend such Tetraethyl Lead in excess of the capacity of its plant at the time.

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THIRD: The Buyer shall pay to the Seller for the services of the Seller herein referred to, the sum of twenty-two cents (22¢) per one hundred pounds for all Ethyl Fluid blended and loaded into tank cars pursuant to the terms and conditions of this agreement, and for all said Ethyl Fluid loaded into drums, the Buyer shall pay to the Seller an additional charge of fifty cents (50¢) per drum.

FOURTH: In addition to the foregoing charge, the Buyer shall pay to the Seller thirty cents (30¢) per one hundred pounds of Ethyl Fluid blended under this agreement until the entire cost of the installations for increased blending, storage and delivery facilities referred to herein  
Seller

shall be returned to the ~~Buyer~~ it being understood and

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agreed that said costs of such installations are estimated to be approximately Two Hundred and Twenty-five Thousand Dollars (\$225,000.00); and it is further understood that upon the expiration of this agreement or if the same shall be terminated for any cause, the amount of such installation cost remaining unpaid at the time shall become immediately due and payable.

FIFTH: The foregoing prices are based on the handling and blending of the materials to mixtures of Ethyl Fluid already ex-

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perienced and Seller agrees to blend other mixtures at prices comparable with the work involved and agreed to by both parties. Should the Buyer request that Ethyl Fluid sold hereunder be packed and delivered in cans or drums containing not more than ten (10) gallons; then and in that event, the charge for blending and packing said Ethyl Fluid shall be sixty cents (60¢) per one hundred pounds, it being understood that all payments due to the Seller under this and preceding paragraphs shall be due on the tenth day of each month for Ethyl Fluid delivered during the preceding calendar month.

SIXTH: The Buyer agrees to provide all raw materials and all containers for the Ethyl Fluid, and to cause them to be available as needed at the blending plant of the Seller, the Buyer paying all transportation charges in and out of the plant. The Seller is to fill the drums with Ethyl Fluid and to deliver them to the testing room (which is to be situated adjacent to the blending plant and be under the control of the Buyer). The Seller is to handle the drums between the testing room and warehouse and is to load them onto cars as desired by Buyer, the labor necessary

for this handling, bracing materials, etc., is to be supplied by the Seller if the Buyer so desires, but the whole cost is to be billed to the Buyer. The Seller is to deliver Ethyl Fluid to the storage tanks and fill tank cars. The Seller is to furnish all power required in the blending plant, Ethyl Fluid storage, drum cleaning station and warehouses, to include heating and lighting service. The Seller is to do all routine cleaning and painting of the containers, but if the containers require sand blasting, or the removal of unusual accumulations of sludges, the cost of additional work so required is to be borne by the Buyer. The Seller will at Buyer's request, inspect clean and repair the Buyer's tank cars at the Dye Works cost. The Seller is to continue to provide the lab-

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oratory facilities existing at the date of this agreement to enable the inspector of the Buyer to take such samples and make such tests as may be required to permit him to determine the quality of the Ethyl Fluid being delivered.

SEVENTH: The Buyer agrees also to pay monthly to the Seller the cost of ordinary and extraordinary repairs and replacements to buildings, equipment and any other facilities in the blending area which in the judgment of the Seller are required, except that no repair job costing more than Five Hundred Dollars (\$500.00) shall be made without the approval of the Buyer.

EIGHTH: The Seller does not guarantee the yield of Ethyl Fluid to be realized from the raw materials furnished; and, except for losses due to its negligence, shall not be responsible for losses of raw, or finished, materials in connection with the blending and storage; but all such losses shall be borne by the Buyer.



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NINTH: This agreement shall run with, and expire simultaneously with the agreement for the purchase and sale of Tetraethyl Lead dated February 26, 1930 between the two parties to this agreement.

TENTH: Neither the Buyer nor the Seller shall be liable to the other for any failure of performance caused by fires, strikes, hurricanes or by any cause beyond the control of either of the parties hereto, but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to perform as to the quantities provided in this agreement but shall merely postpone performance, with the understanding, however, that no blending is to be done or called for after the cessation of the supply of Tetraethyl Lead under the agreement of February 26, 1930.

IN WITNESS WHEREOF the parties hereto by their officers duly authorized have caused this agreement to be executed and their

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respective corporate seals to be hereunto affixed on the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By *E. G. Robinson*

General Manager-Dyestuffs Department

[CORPORATE SEAL]

ATTEST:

*E. A. Howard*

Ass't Secretary

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ETHYL GASOLINE CORPORATION

By *E. W. Webb*

President

ATTEST: [CORPORATE SEAL]

*A. E. Mittnacht*  
Secretary

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NOTE: At lower right of all pages is written "GMC-1014a"; twice on second page the word "buyer" is deleted and the word "seller" inserted by typewriter; in the margin to the left of the signatures on the last page is written "Approved" followed by illegible initials; italics indicate handwriting.

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MEMORANDUM OF AGREEMENT made this 24th day of August 1934, by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "DuPont", and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "Ethyl".

W I T N E S S E T H :

WHEREAS Ethyl is now purchasing from DuPont, under an agreement dated the 18th day of August, 1933, as amended, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company and/or Standard Oil Development Company, and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

- U. S. Patent No. 1,612,131—Krause and Callis—  
"Making Metallo-Organic Compounds",
- U. S. Patent No. 1,639,947—Kraus and Callis—  
"Art of Making Metallo-Organic Compounds",
- U. S. Patent No. 1,697,245—Kraus and Callis—  
"Art of Preparing Metallo-Organic Compound";  
and

WHEREAS Ethyl desires to grant to DuPont a non-exclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel; and

WHEREAS it is the desire and intention of the parties hereto to enter into a new contract for the purchase of said Tetraethyl Lead by Ethyl from DuPont and to incorporate into said contract certain understandings, terms and condi-

tions with reference to prices and quantities of Tetraethyl Lead to be delivered by DuPont to Ethyl during the period from the effective date of this agreement to December 31, 1935.

NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these

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presents do agree with each other as follows:

1. Ethyl hereby grants to DuPont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent hereinbefore listed.

2. DuPont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from DuPont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the period beginning on the effective date of this agreement and ending December 31, 1935.

3. The price of Tetraethyl Lead delivered by DuPont to Ethyl during the period from June 1, 1934 to December 31, 1934, shall be thirty four cents (34¢) per pound and during the period beginning January 1, 1935 and ending December 31, 1935, said price shall be thirty two cents (32¢) per pound, subject to the provisions hereinafter set forth; it being understood and agreed that said prices are based upon the understanding that Ethyl will not permit



its inventories to be depleted at the end of the first period above named in order to obtain the benefit of the reduced price which applies throughout the second period, and to this and Ethyl agrees that if its stock of Tetraethyl Lead in storage at Deepwater Point, New Jersey, as of December 31, 1934, shall be less than three million, three hundred and ten thousand (3,310,000) pounds, excepting any reduction in said stock on account of DuPont's inability or failure to supply the same, or on account of causes outside of Ethyl's control, the price of thirty four cents (34¢) per pound shall apply on deliveries during the succeeding period up to the amount of such deficiency, but if Ethyl has ordered from DuPont not less than three million, five hundred thousand (3,500,000) pounds of Tetraethyl Lead during each month from June to December, 1934, inclusive, then the thirty two cents (32¢) price, above referred to, shall

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apply on all deliveries made <sup>on and</sup> subsequent to January 1, 1935, regard-

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less of any deficiency in such stock on December 31, 1934.

4. All Tetraethyl Lead purchased by Ethyl from DuPont hereunder shall have a pure Tetraethyl Lead content of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, shall constitute delivery and invoices shall be rendered on the basis of such delivery.

5. On account of the fact that DuPont's Tetraethyl Lead plant is operated solely to provide Ethyl with its

requirements, it is agreed that if during any calendar month such requirements shall be less than eight hundred thousand (800,000) pounds, then DuPont may, at its option, cease to operate such plant until such requirements shall be at least eight hundred thousand (800,000) pounds per month; it being understood in such event when the operation of such plant shall be resumed, DuPont shall not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that DuPont's discretion in this regard shall be absolute and binding upon Ethyl.

6. It is understood and agreed that any increase in the cost to DuPont of Tetraethyl Lead sold hereunder on account of taxes, duties, excises or other charges imposed by any Government upon the sale, production, delivery, processing, importation or use thereof or any materials used in the manufacture thereof and paid by DuPont or embodied in the cost of such Tetraethyl Lead to DuPont shall be added to the foregoing prices; it being understood that in no event shall the provisions of this Paragraph 6 operate to increase the price of Tetraethyl Lead delivered hereunder by more than two cents (2¢) per pound.

7. It is understood and agreed that DuPont's

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prices for Tetraethyl Lead sold to Ethyl hereunder are based upon Ethyl's present schedule of prices to its customers, namely thirty three cents (33¢) per 100 cc for the remainder of 1934, and thirty cents (30¢) per 100 cc for the year 1935, and if and when the above prices to its customers

are increased by Ethyl, it is agreed that DuPont's prices herein for Tetraethyl Lead shall be proportionately increased; it being understood that no such increase in DuPont's prices to Ethyl shall apply to deliveries during the year 1935, unless Ethyl's prices to its customers for deliveries during such year shall be greater than thirty one cents (31¢) per 100 cc, in which event DuPont's increase in price shall be calculated on the amount by which Ethyl's price shall exceed thirty cents (30¢) per 100 cc.

8. Notwithstanding anything herein contained to the contrary, it is understood and agreed that in no event shall DuPont be required to deliver or Ethyl to take Tetraethyl Lead hereunder in excess of the capacity of DuPont's plant for the production of Tetraethyl Lead at Deepwater Point, New Jersey, and should DuPont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of DuPont shall be suspended during any such period of prevention and Ethyl shall have the right to accept the corresponding quantities at a later date or to cancel them entirely.

9. If at any time during the life of this agreement Ethyl shall submit to DuPont satisfactory evidence that the future Tetraethyl Lead requirements of Ethyl shall exceed the capacity of DuPont's existing plant and facilities, and in the sole opinion and judgment of DuPont such evidence shall be sufficient to justify the erection of additional facilities, DuPont shall, upon reasonable notice from Ethyl, increase its plant and facilities for the production of said Tetraethyl Lead in order to meet any such expected increase.

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in requirements and Tetraethyl Lead produced by DuPont with such additional facilities shall be sold to Ethyl in accordance with the terms of this agreement.

10. Neither party shall be liable to the other for

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any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto (including the causes set forth in Paragraph 8 hereof), but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance, provided, however, that such postponement shall in no event operate to extend this agreement beyond July 1, 1936.

11. Each of the parties agrees that it shall disclose fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as

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such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from DuPont, upon terms mutually satisfactory to the parties, at least 50% of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from DuPont at least 50% of all of said product or products which it shall require in its business for the calendar year commencing January 1, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall thereupon expire, cease and determine.

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The termination of this agreement, as provided elsewhere herein, shall not affect the undertakings set forth in this paragraph. Such licenses shall be without royalty.

12. The effective date of this agreement shall be the 1st day of June, 1934, and from and after such date the agreement of August 18, 1933, hereinabove referred to, as well as all writings and agreements supplemental thereto, and all prior agreements relating to the same subject matter, shall be cancelled and terminated, except with respect to any right, duty or obligation arising prior to the date of cancellation.

IN WITNESS WHEREOF the parties hereto, by their officers, duly authorized, have caused this agreement to be

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executed and their respective corporate seals to be hereunto  
affixed the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY,

By *E. G. Robinson*

General Manager

[CORPORATE SEAL]

ATTEST:

*E. A. Howard*

Assistant Secretary.

ETHYL GASOLINE CORPORATION,

By *E. W. Webb*

President.

[CORPORATE SEAL]

ATTEST:

*A. E. Mittnacht*

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NOTE: At lower right of all pages is written "GMC-1006"; italics indicate handwriting.

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MEMORANDUM OF AGREEMENT made this 20th day of December, 1935, by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "du Pont", and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "Ethyl",

WITNESSETH:

WHEREAS Ethyl is now purchasing from du Pont, under an agreement dated the 24th day of August, 1934, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company and/or Standard Oil Development Company, and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

U.S. Patent No. 1,612,131—Krause and Callis—  
"Making Metallo-Organic Compounds",

U.S. Patent No. 1,639,947—Kraus and Callis—"Art  
of Making Metallo-Organic Compounds",

U.S. Patent No. 1,697,245—Kraus and Callis—"Art  
of Preparing Metallo-Organic Compounds"; and

WHEREAS under said agreement Ethyl has granted to du Pont a non-exclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel; and

WHEREAS it is the desire and intention of the parties hereto to enter into a new contract for the purchase of said Tetraethyl Lead by Ethyl from du Pont during the calendar year 1936;

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NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these presents do agree with each other as follows:

—2—

1. Ethyl hereby grants to du Pont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent hereinbefore listed.

2. Du Pont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from du Pont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the calendar year 1936.

3. The price of Tetraethyl Lead delivered by du Pont to Ethyl during the calendar year 1936 shall be twenty-eight cents (28¢) per pound.

4. All Tetraethyl Lead purchased by Ethyl from du Pont hereunder shall have a pure Tetraethyl Lead content of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, shall constitute delivery and invoices shall be rendered on the basis of such delivery.



5. On account of the fact that du Pont's Tetraethyl Lead plant is operated solely to provide Ethyl with its requirements, it is agreed that if during any calendar month such requirements shall be less than eight hundred thousand (800,000) pounds, then du Pont may, at its option, cease to operate such plant until such requirements shall be at least eight hundred thousand (800,000) pounds per month; it being understood in such event when the operation of such plant shall be resumed,

—3—

du Pont shall not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that du Pont's discretion in this regard shall be absolute and binding upon Ethyl.

6. It is understood and agreed that any increase in the cost to du Pont of Tetraethyl Lead sold hereunder on account of taxes, duties, excises or other charges imposed by any Government upon the sale, production, delivery, processing, importation or use thereof or any materials used in the manufacture thereof and paid by du Pont or embodied in the cost of such Tetraethyl Lead to du Pont shall be added to the foregoing prices; it being understood that in no event shall the provisions of this paragraph 6 operate to increase the price of Tetraethyl Lead delivered hereunder by more than two cents (2¢) per pound.

7. It is understood and agreed that du Pont's price for Tetraethyl Lead sold to Ethyl hereunder is based upon

Ethyl's present price to its customers, namely *Twenty-Eight* cents (28¢) per 100 cc, and if and when the above price to its customers is increased by Ethyl, it is agreed that du Pont's price herein for Tetraethyl Lead shall be proportionately increased; it being understood that no such increase in du Pont's price to Ethyl shall apply unless Ethyl's price to its customers shall be greater than *Twenty-Eight* cents (28¢) per 100 cc, in which event du Pont's increase in price shall be calculated on the amount by which Ethyl's price shall exceed *Twenty-Eight* cents (28¢) per 100 cc.

—4—

8. Notwithstanding anything herein contained to the contrary, it is understood and agreed that in no event shall du Pont be required to deliver or Ethyl to take Tetraethyl Lead hereunder in excess of the capacity of du Pont's plant for the production of Tetraethyl Lead at Deepwater Point, New Jersey, and should du Pont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree or on account of any law, ordinance, regulation or rule promulgated by any Governmental authority or agency thereof, the obligation to make deliveries on the part of du Pont shall be suspended during any such period of prevention and Ethyl shall have the right to accept the corresponding quantities at a later date or to cancel them entirely.

9. If at any time during the life of this agreement Ethyl shall submit to du Pont satisfactory evidence that the future Tetraethyl Lead requirements of Ethyl shall exceed the capacity of du Pont's existing plant and facilities, and in the sole opinion and judgment of du Pont such evidence shall be sufficient to justify the erection of additional facilities, du

Pont shall, upon reasonable notice from Ethyl, increase its plant and facilities for the production of said Tetraethyl Lead in order to meet any such expected increase in requirements and Tetraethyl Lead produced by du Pont with such additional facilities shall be sold to Ethyl in accordance with the terms of this agreement.

10. Neither party shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto (including the causes set forth in paragraph 8 hereof), but the party

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affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance; provided, however, that such postponement shall in no event operate to extend this agreement beyond July 1, 1937.

11. Each of the parties agrees that it shall disclose fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture

and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from du Pont, upon terms mutually satisfactory to the parties, at least 50% of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from du Pont at least 50% of all of said product or products which it shall require in its business for the calendar year commencing January 1, 1938, or any calendar

—6—

year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall thereupon expire, cease and determine. The termination of this agreement, as provided elsewhere herein, shall not affect the undertakings set forth in this paragraph. Such licenses shall be without royalty.

12. The effective date of this agreement shall be the 1st day of January, 1936, and from and after such date the agreement of August 24, 1934, hereinabove referred to, shall be cancelled and terminated, except with respect to any right, duty or obligation arising prior to the date of cancellation.

IN WITNESS WHEREOF the parties hereto, by their officers duly authorized, have caused this agreement to be executed



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and their respective corporate seals to be hereunto affixed  
the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By *Ely Robinson*  
General Manager.

Attest:

*M. D. Fisher*  
*Ass't Secy*

ETHYL GASOLINE CORPORATION

By *E. W. Webb*  
*Pres.*

Attest:

(illegible)  
*Asst Sec*

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NOTE: At lower right of all pages is written "GMC-  
1007"; italics indicate handwriting.

MEMORANDUM OF AGREEMENT made as of this 1st day of July, A.D. 1936, by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation of the State of Delaware, hereinafter referred to as "DuPont", and ETHYL GASOLINE CORPORATION, also a Delaware corporation, hereinafter referred to as "Ethyl".

W I T N E S S E T H :

WHEREAS, Ethyl is now purchasing from DuPont, under an agreement dated the 20th day of December, 1935, its entire requirements of Tetraethyl Lead, which product is manufactured under the process covered by the following United States Letters Patent owned by the Standard Development Company and/or Standard Oil Development Company, and under which Letters Patent Ethyl has been granted an exclusive license with the right to license others:

U. S. Patent No. 1,612,131—Krause and Callis—  
"Making Metallo-Organic Compounds",

U. S. Patent No. 1,639,947—Krause and Callis—  
"Art of Making Metallo-Organic Compounds",

U. S. Patent No. 1,697,245—Krause and Callis—  
"Art of Preparing Metallo-Organic Compounds"; and

WHEREAS, under said agreement Ethyl has granted to DuPont a nonexclusive license to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel; and

WHEREAS, it is the desire and intention of the parties hereto to enter into a new contract for the purchase of said Tetraethyl Lead by Ethyl from DuPont during the period from July 1, 1936 to December 31, 1937;

NOW, THEREFORE, in consideration of the premises and in consideration of the mutual covenants and agreements herein contained to be kept and performed by the parties hereto, they have agreed and by these presents

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do agree with each other as follows:

1. Ethyl hereby grants to DuPont a non-exclusive license to make and to sell only to Ethyl, during the period covered by this agreement, Tetraethyl Lead for use in connection with the manufacture and/or sale of motor fuel, under or by virtue of the processes and inventions defined in the Letters Patent hereinbefore listed.

2. DuPont agrees to sell and deliver to Ethyl, and Ethyl agrees to purchase, accept and receive from DuPont, upon prices and conditions hereinafter referred to, all Tetraethyl Lead which Ethyl shall require during the period from July 1, 1936 to December 31, 1937.

3. The price of Tetraethyl Lead delivered by DuPont to Ethyl during the period above referred to, shall be twenty six cents (26¢) per pound; it being understood and agreed that said price has been fixed with reference to the present wage rate for first class operators in the manufacture of Tetraethyl Lead of seventy five cents (75¢) per hour, and it is further understood and agreed that if at any time during the life of this agreement said wage rate for first class operators shall exceed ninety cents (90¢) per hour, then so long as such increased wage rate shall continue, the price above referred to shall be increased one-quarter of one cent ( $\frac{1}{4}$  of 1¢) per pound for each three and three-quarters cents ( $3\frac{3}{4}$ ¢) by which said wage rate for first class operators shall exceed ninety cents (90¢) per hour.

4. All Tetraethyl Lead purchased by Ethyl from DuPont hereunder shall have a pure Tetraethyl Lead content of at least 97%, and payment therefor shall be made upon receipt of invoices not later than the 10th day of the month following the calendar month in which deliveries are made; it being understood that delivery to the storage tanks at the blending plant located at Deepwater Point, New Jersey, shall constitute delivery and invoices

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shall be rendered on the basis of such delivery.

5. On account of the fact that DuPont's Tetraethyl Lead plant is operated solely to provide Ethyl with its requirements, it is agreed that if during any calendar month such requirements shall be less than eight hundred thousand (800,000) pounds, then DuPont may, at its option, cease to operate such plant until such requirements shall be at least eight hundred thousand (800,000) pounds per month; it being understood in such event, when the operation of such plant shall be resumed, DuPont shall not be liable to Ethyl for any failure to make deliveries hereunder, where such failure shall arise by reason of the disbanding of the operating crew of said plant and the reasonable curtailment of production until a competent operating crew can be secured without undue risk; it being understood that DuPont's discretion in this regard shall be absolute and binding upon Ethyl.

6. It is understood and agreed that any increase in the cost to DuPont of Tetraethyl Lead sold hereunder on account of taxes, duties, excises or other charges imposed by any Government upon the sale, production, delivery, processing, importation or use thereof or any materials



used in the manufacture thereof and paid by DuPont or embodied in the cost of such Tetraethyl Lead to DuPont shall be added to the foregoing prices; it being understood that in no event shall the provisions of this Paragraph 6 operate to increase the price of Tetraethyl Lead delivered hereunder by more than two cents (2¢) per pound.

7. It is understood and agreed that DuPont's price for Tetraethyl Lead sold to Ethyl hereunder is based upon Ethyl's present price to its customers, namely twenty six cents (26¢) per 100 cc, and if and when the above price to its customers is increased by Ethyl, it is agreed that DuPont's price herein for Tetraethyl Lead shall be proportionately increased; it being understood that no such increase in DuPont's price to Ethyl shall apply

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unless Ethyl's price to its customers shall be greater than twenty six cents (26¢) per 100 cc, in which event DuPont's increase in price shall be calculated on the amount by which Ethyl's price shall exceed twenty six cents (26¢) per 100 cc, and it is further agreed that this Paragraph shall not apply to price increases made by Ethyl to off-set increases in DuPont's prices under Paragraph 3.

8. Notwithstanding anything herein contained to the contrary, it is understood and agreed that in no event shall DuPont be required to deliver, or Ethyl to take, tetraethyl Lead hereunder in excess of the capacity of DuPont's plant for the production of Tetraethyl Lead at Deepwater Point, New Jersey, and should DuPont be prevented from making or delivering Tetraethyl Lead hereunder on account of any judicial decision, order or decree or on account of any law, ordinance, regulation or rule promulgated by any Govern-

mental authority or agency thereof, the obligation to make deliveries on the part of DuPont shall be suspended during any such period of prevention and Ethyl shall have the right to accept the corresponding quantities at a later date or to cancel them entirely.

9. Neither party shall be liable to the other for any failure to deliver or accept Tetraethyl Lead where such failure is caused by fires, strikes, hurricanes, or by any cause beyond the control of either of the parties hereto (including the causes set forth in Paragraph 8 hereof), but the party affected shall use due diligence to remove the cause of failure and to resume performance. Such delays shall not affect the obligation of the parties to deliver or accept the quantities provided in this agreement, but shall merely postpone performance; provided, however, that such postponement shall in no event operate to extend this agreement beyond July 1, 1938.

10. Each of the parties agrees that it shall disclose fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the

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patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the proc-

ess covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from DuPont, upon terms mutually satisfactory to the parties, at least fifty per cent (50%) of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further that should Ethyl fail to purchase from DuPont at least fifty per cent (50%) of all of said product or products which it shall require in its business for the calendar year commencing January 1, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall thereupon expire, cease and determine. The termination of this agreement, as provided elsewhere herein, shall not affect the undertakings set forth in this paragraph. Such licenses shall be without royalty.

11. The effective date of this agreement shall be the 1st day of July, 1936, and from and after such date the agreement of December 20, 1935, hereinabove referred to, shall be cancelled and terminated, except with respect to any right, duty or obligation arising prior to the date

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of cancellation.

IN WITNESS WHEREOF the parties hereto, by their officers duly authorized, have caused this agreement to be ex-

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executed and their respective corporate seals to be hereunto  
affixed the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY,

By *Cesare Protto*

ATTEST:

*W. F. Raskob*

~~Asst.~~ Secretary.

ETHYL GASOLINE CORPORATION,

By *E. W. Webb*

President.

ATTEST:

(*illegible*)

Asst. Secretary.

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NOTE: At lower right of all pages is written "GMC-1009"; at lower left on the last page is written "o.k C. M. Spargo" followed by illegible initials; deletion on last page is by hand; italics indicate handwriting.



4643

GENERAL MOTORS CORPORATION

BROADWAY AT 57TH STREET

NEW YORK, N. Y.

July 17, 1931

Mr. Lammot duPont,  
E. I. duPont deNemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

While it is not my duty specifically to deal with the question concerning which I am writing you, and I appreciate it is not your duty, for organization reasons, to deal with the same matter, yet I would like to get your cooperation in connection with the matter of tetra-ethyl lead. I will try to state the case.

As you know, there is considerable excess capacity for tetra-ethyl lead due to the progress that has been made in increasing the productivity of the plant. The question arises, therefore, how can we put this extra capacity into profitable employment? The matter comes up at this time because Mr. Webb tells me that he is about to begin negotiations with your organization with regard to renewal of the contract, which terminates at the end of this current year.

My thought is, that we ought to give consideration to the betterment of our overhead position, if it is a factor in a thing of this kind, by seeing just what we could make by your giving us a reduction on a reasonable assumption of increased business—we in turn passing that on to the trade with perhaps a certain contribution added to it on our own account. I mean on account of Ethyl Gasoline Corporation.

I believe that there are two things which Ethyl Gasoline Corporation should do, or must do eventually; viz., first,

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to improve its standards and the second is, to reduce its price—in that way strengthening its competitive position against new methods of cracking which have developed, whereby the anti-knock qualities of fuels are being improved and also to improve their competitive position with respect to fuels that are now being offered of high anti-knock quality through selective crudes.

*Gas 3¢ prem.*

*Ethyl 1¢*

*Tel ¼¢*

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I have suggested to Mr. Webb that he urge upon the duPont organization this phase of the question and that they work with us in a cooperative way with a view to seeing what we could do in the way of strengthening our competitive position and thereby increase our volume and in that way better employ the capital that we already have invested in plant capacity and overhead incident to same.

Very truly yours,

*Alfred P. Sloan Jr.*

APSJr./K

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NOTE: At lower right of both pages is written "GMC 938b"; to the right of the letterhead is stamped "Answered Jul 22, 1931—Lammot du Pont"; to the right of the address is stamped "Received Jul 18, 1931—Lammot du Pont"; underlining on first page is by hand; at first page upper left is written "Robinson"; italics indicate handwriting.

4645

July 22, 1931.

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
New York City, New York.

Dear Alfred:

Yours of July 17th, in regard to Ethyl Gasoline Corporation and the price charged for tetra-ethyl lead, received. I am in accord with your general idea that careful consideration should be given to the matter of possibly increasing the demand for ethyl-gas through revising the premium charged therefore.

\*Receives?  
Note "to"  
in 3rd line  
next ¶.

I understand that, roughly, the premium on ethyl-gas is 3¢ per gallon, and that for the ethyl fluid contained in a gallon of gasoline the Ethyl Gasoline Corporation pays\* one cent, and that for the tetra-ethyl lead (plus services) contained in a gallon of gasoline the duPont Company receives 1/4¢. These figures, of course, do not represent the profit to the respective interests, but rather the gross receipts, and, as stated before, the figures are only approximate.

Out of the 3-cent premium must come selling expense and general expenses of distribution. Out of the one-cent to the Ethyl Gasoline Corporation must come the price of the tetra-ethyl lead, advertising and expenses.

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Out of the 1/4¢ received by du Pont, must come the cost of the raw materials, the cost of manufacture and du Pont's general expenses. If these figures are even half-way correct, it seems futile to look for a reduction in the 3-cent premium charged the public, through a cut down of the 1/4¢ paid to du Pont. A radical reduction in that 1/4-cent will barely scratch the 3¢.

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I have reviewed the figures and cannot find that du Pont is making an unreasonable profit on tetra-ethyl lead, unless you call it unreasonable to earn any return on an investment which has already been amortized. Our policy should certainly be to co-operate with the Ethyl Gasoline Corporation, with General Motors, Standard Oil and the oil companies in general, in increasing the demand for ethyl-gas. My observation is that it would take a very considerable reduction in the premium for ethyl-gas, probably  $1\frac{1}{2}\%$  out of the 3% to make any appreciable effect by way of increasing demand, but I would far rather leave this question with the Ethyl Gasoline Corporation and the oil companies to think about.

I understand Mr. Webb and our Mr. Robinson had a conference on this subject yesterday, and I talked with Mr. Robinson, explaining the above views, before they met.

I do not wish to be at all unreasonable in this

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matter, so if you see anything incorrect in my line of thought. I would appreciate your calling attention to it.

Yours very truly,

PRESIDENT.

LduP/MD

NOTE: At lower right on all pages is written "GMC-938a"; at upper right of first page appears "GM-9"; diagonally across all pages is stamped "File copy"; the asterisks and underlining on the first page are by hand; italics indicate handwriting.

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4647

GENERAL MOTORS CORPORATION  
BROADWAY AT 57TH STREET  
NEW YORK, N.Y.

July 28, 1931.

Mr. Lammot duPont,  
E. I. duPont de Nemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

Thanks for yours of July 22nd dealing with mine ~~AT~~ the 17th with respect to Ethyl Gasoline Corporation.

Perhaps I should not have "butted" into the matter, so to speak, without knowing more about the circumstances. My only thought was, however, that even if you could help only a little, it would help us that much more, so to speak. Not having the facts, as before stated, with respect to the figures, there is no use of discussing the distribution that you mention, altho I have no doubt that you are substantially correct.

All I was aiming at was to inject into the reasoning of those who had charge of the matter and would have to go through with it, the thought that if we all did our part to the extent that we economically could, that we might be able to better the situation in some form or another. I do not think it is so much a case of reducing the 3¢ premium per gallon, notwithstanding the fact that gasoline is selling at such low prices and that 3¢ is a much larger percentage than it used to be, as it is a case of maintaining the supremacy of our brand, which means improving our standard and also means more tetra-ethyl lead.

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I have no doubt that with what you have done Messrs. Webb and Robinson will work the proposition out and that a reasonable solution will be reached.

Very truly yours,

*Alfred P. Sloan, Jr.*

APSJr./K

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NOTE: At upper right is written "GM-9"; across the date line is stamped "Received Jul 29, 1931, Lamot du Pont"; at lower right is written "GMC-938"; italics indicate handwriting.

2366

GENERAL MOTORS CORPORATION  
BROADWAY AT 57TH STREET  
NEW YORK, N.Y.

Wilmington, Delaware,

February 25, 1932.

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
New York City, N. Y.

Dear Alfred:

You know I have always been somewhat concerned with respect to the price for tetra-ethyl-lead charged Ethyl Gasoline Corporation by du Pont.

At a recent meeting of the Operations Committee, I noticed that Ethyl Gasoline Corporation's earnings for account of General Motors, aside from royalties, during 1931 amounted to \$3,812,000. This, I understand, was after Ethyl Gasoline Corporation's taxes and bonus.

I have just seen the du Pont figures on earnings from tetra-ethyl-lead which, after taxes and du Pont bonus, are fairly close to the same figure. This is for 1931. During that year the average price charged was 56 cents. The present price is 48 cents. If this reduction in price had been in effect in 1931, it would have made a difference of over one million dollars in du Pont earnings from tetra-ethyl lead, so that if business during

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1932 should be the same as in 1931, and the present price remain in effect (which, under the contract, it will) and du Pont makes no improvement in costs, then in all probability du Pont earnings from tetra-ethyl-lead will be some-

thing like three-fourths as much as General Motors' earnings from Ethyl Gasoline Corporation, aside from royalties, and after taxes and bonus.

I have always felt that, because of the difficulty of comparing the earnings of General Motors and du Pont from this source, on the basis of "return on the investment," it is reasonably fair that du Pont earnings should be about one-half of Ethyl Gasoline Corporation's earnings; i.e., General Motors, Standard Oil and du Pont should participate equally; of course, General Motors getting their royalty first and in addition. It worked out about that way in 1931, but will not be so favorable for du Pont in 1932 unless economies in manufacture are effected, which, of course, may be the case. Taken all in all, I think the present contract is fair and reasonable, looked at from both sides.

Yours very truly,

*L. du Pont*

LduP/MD

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NOTE: To right of address is stamped "Received Feb 26, 1932, A. P. Sloan, Jr."; at second page upper right is an illegible initial; deletion at second page bottom is by hand; italics indicate handwriting.



4651

February 27, 1932.

Mr. Lammot duPont, President,  
E. I. du Pont de Nemours & Company,  
Wilmington, Delaware.

My dear Lammot:—

I have your letter of February 25th with reference to the tetra-ethyl lead situation. You say that you are somewhat concerned with respect to the price. I take it, from your letter, that what you mean is—that you are interested rather than that you have any misgivings. If I have misinterpreted the thought, let me know.

I give a certain amount of thought and time to Ethyl Gasoline problems. As a matter of fact, Mr. Clark, Vice President of Standard Oil Company; Mr. Webb and myself constitute the Executive Committee and really run the operation. I fully recognize the responsibility due to the important earnings that it contributes to your picture as well as to ours, to say nothing of those of the Standard Oil Company which means, of course, that we are all concerned with the problem. If you feel that you would like to have a closer contact with the situation, I should be glad to have you added to the Executive Committee or, if you wish, you could take the place of Irene' on the Board for Irene' hardly ever attends the meetings anyway. I think you will find, however, that careful consideration is given to all the problems and we all appreciate—at least I do—that we have got to be aggressive and progressive to keep the earnings where they are.

Now, I told you of an incident that recently developed, indicating that we had been somewhat apprehensive as to the big broad future of this Company on account of the

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increasing competition of anti-knock fuels developed through the various vapor phase cracking processes. Three or four days ago I sent to Mr. Harrington copy of some recent tests, which he has recently acknowledged, and requested that he forward same to your office on completion. After I asked him to do so I realized that the test was very voluminous and complicated—probably much more comprehensive in character than you want to study—but the facts are that we have recently begun to appreciate, and have demonstrated, that anti-knock values obtained from vapor phase cracking processes are not equal in value to anti-knock values obtained through the tetra-ethyl lead route, which means that the economic strength of tetra-ethyl lead as an anti-knock agency is tremendously enhanced. While many of us disagree, technically, on certain points—they are details—we all agree on the statement that I have just made.

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We are conducting some important experiments under the auspices of Ethyl Gasoline Technical Committee, supported by the Research Departments of General Motors, Ethyl Gasoline and Standard Oil of New Jersey, with a view to developing an objective that we should try to reach 'x' years hence with respect to the compression ratio of motor cars, I have had the oil executives together and am developing cooperation between them and ourselves and after our objective and program is developed, I will put

up

the matter to the automobile manufacturers. I have not done that before because I wanted to settle the difficulties with one technical staff; i.e., our own, rather than to deal with others because so many differences of opinion always arise.

So far as this year is concerned, I do not believe that we can expect to enjoy as big a business as in 1931. I hate to say this but it is a fact. Preliminary figures received from Mr. Clark, who keeps me advised of the trend in the oil industry, indicate an appreciable falling off in gasoline consumption for the first time in history, indicating that the economic situation has reached the point where people must use their cars less. This, of course, is very disconcerting but it is a natural result of what is happening. It is also reasonable to suppose that tetra-ethyl lead as a percentage of the gasoline used, will decline even greater than the latter will. The 3¢ premium naturally means more than it did two or three years ago and the improvement in other fuels makes it less necessary to use ethyl gasoline. The statistics of the American Petroleum Institute estimate that gallonage will be off at least 10%. If this is true I believe that Ethyl gasoline will be off more than that—perhaps 15% or even 20%. This will not mean anything with respect to the position of Ethyl gasoline. What I mean is, its economic position. It will simply mean that people will have to use a cheaper fuel because they have less money to spend outside of their natural desires. The time will be reached when, with a better synchronization of engine compression and anti-knock fuels, such a thing will be impossible. In other words, they will have to use Ethyl gasoline or a gasoline of known anti-knock rating for a certain engine.

I give you the above more or less brief picture of what is happening and what we may expect, with the further fact that 1931 would have shown a different trend than 1930 with respect to Ethyl gasoline had we not taken on additional customers. We now have practically everybody selling Ethyl gasoline or some gasoline using tetra-ethyl lead and we will now be limited by the general trend and

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will not be able to offset the general trend by an increase in contact points.

Very truly yours,

APSJr./K

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NOTE: Written accross the top is "Ethyl-Products-Anti Knock—Maintaining Standards"; at first page upper right is written an "R"; a check mark is placed by hand above the figure "25th" in the first line; two check marks are placed by hand at first page lower right.

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E



CC—Mr. Irenée du Pont  
Mr. Lammot du Pont/  
Mr. W. F. Harrington

E. I. DU PONT DE NEMOURS & COMPANY  
(INCORPORATED)

ORGANIC CHEMICALS DEPARTMENT  
WILMINGTON, DELAWARE

September 15, 1933.

Mr. A. E. Mittnacht, Secretary & Treasurer  
Ethyl Gasoline Corporation,  
Chrysler Building,  
New York, N.Y.

Dear Mr. Mittnacht:

I have your letter of the 14th in which you say that you would like us to postpone starting work on the proposed "E" Plant until we have been able to reach a conclusion as to the matter discussed in your office the other day, concerning future supplies of Tetraethyl Lead.

Our suggestion that you modify the existing contract to make it apply to the capacity which would exist after this plant had been built was made solely because it was our understanding that you would need the output of this plant very soon and we thought that was the quickest way to get the plant actually under construction.

We have given a great deal of thought to the proposal which Mr. Clark and Mr. Howard presented in your office the other day. As regards the primary question, namely, the mutualization of that portion of the Ethyl Gasoline Corporation which concerns the rights to use lead in gasoline, we have, of course, nothing to say. That is purely a matter which comes in the domain of the Ethyl Gasoline Corporation.

23752

We can recognize, moreover, that it is going to be extremely difficult to convince the oil companies that they should enter into this plan and pay for their stock the large amount of money, which would be required to represent the capitalization of the present earning of the Ethyl Gasoline Corporation, unless the oil companies could see for themselves in the future important savings from such an investment. The only way that they could foresee such savings would, as you state, be through an agreement which would assure them large decreases in the price of lead to them in the future. Such assurance presumably would come only from a long term agreement to sell them lead at a price fixed in cents or from some formula which could operate automatically over such a term of years.

—2—

We have been unable to see how the interest controlling the manufacture could devise a basis for such an agreement which would be equitable to both parties and which would safeguard the manufacturer against contingencies like currency inflation and would at the same time be attractive to the oil companies. If such a plan could be devised it seems to us that it would be just as practicable to use the plan to have the duPont Company assure the Ethyl Gasoline Corporation of its supply of lead in satisfactory terms for an extended period as to use it in the manner which you suggested.

We recognize that it will be necessary in the future continually to keep the price of lead to the oil companies on a basis which will make its use economical in comparison with the building of cracking plants and that improvements in the technique of cracking may require decreases in your present price of 35¢ per 100 cc. or 98¢ per pound. The present price at which we sell lead to the Ethyl Gasoline Corporation will permit an enormous amount of progress in

that direction, and it is quite possible that during the period in question, continued improvement in manufacturing procedure and expansion in the volume of the business will permit further reductions in our price to you. We know that you recognize that the economies in manufacture and the reductions in price, which have been made to you in the past, have resulted from the developments which the duPont Company has been able to make in the manufacturing operation and that these developments and these economies have resulted particularly from the fact that the lead manufacturing operation has been closely associated with the other operations and the service and research facilities which have existed at the Dye Works.

It may well be that we have failed to understand completely the plan which you are proposing and the advantages to all of the interests involved, which you expect to accrue therefrom. In view of this we would suggest that it might be advisable for you to put in writing your suggestions with regard to a change in the present relationships. Obviously we are interested, as you are, in the continuation of the interest in and the use of Tetraethyl Lead by the oil companies and we hope that some plan can be evolved which can be accepted as being mutually beneficial to all of us.

Very truly yours,

E. G. ROBINSON,  
GENERAL MANAGER.

EGR:EM

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NOTE: At lower right of both pages is written "GMC-585e"; a check mark is placed by hand after the name of Lamnot du Pont at the top of the first page; at first page upper right is stamped "Received Sep 16, 1933, Lamnot du Pont".

September 20, 1933.

Mr. Alfred P. Sloan, President,  
General Motors Corporation,  
New York City, N. Y.

Dear Alfred:

I am enclosing herewith copy of a letter which our Mr. Robinson addressed Mr. Mittnacht on September 15th, and copy of Mr. Mittnacht's reply of September 19th, all in regard to the proposition of mutualizing the Ethyl Gasoline Corporation.

Mr. Mittnacht's statement, especially that with respect to the commitment to the Ethyl Gasoline Corporation customers, does not agree at all with my understanding of your statements and Mr. Brown's statement in our conversation with Irénée last Monday. I feel that we are in a somewhat difficult position, and would appreciate your advice as to how to proceed.

Yours very truly,

PRESIDENT.

LduP/MD

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NOTE: At upper right is written "GM-9" followed by two pencilled check marks; at lower right is written "GMC-585c".



C O P Y

ETHYL GASOLINE CORPORATION  
New York

September 19, 1933.

Mr. E. G. Robinson, General Manager,  
E. I. duPont de Nemours & Company,  
Organic Chemicals Department,  
Wilmington, Delaware.

Dear Mr. Robinson:

Your letter of September 15th shows that we failed to make clear to you the two vital points of our discussion, as follows:

1. We have promised our customers to present to them a plan for the mutualization of the Ethyl Gasoline Corporation. We do not feel that we can present any such plan until we have put our relations with your Company on a permanently sound basis. Under the present set-up, the Ethyl Corporation is not in control of its own business. The du Pont Company is the sole supplier and we estimate that physical limitations might prevent the development of any competitive source of supplies for at least two years. A two-year shut down of its business would be fatal to the Ethyl Corporation. In substance, therefore, the du Pont Company are co-directors of the policy of the Ethyl Corporation. The Ethyl Corporation, therefore, cannot sell to the oil industry control of its vital and necessary raw material, tetraethyl lead. It can only sell the right to sit down with your Company and work out from time to time arrangements for the supply of this vital material.

These are the plain facts of the situation. A relationship which grew up and existed only because of the feeling of mutual confidence between the parties has finally produced a situation which is an economic absurdity and appears plainly as such when it is viewed from the standpoint of selling the business to a complete stranger. It is unnecessary to pursue the outline of the mutualization plan any further; whether it is practical or not; how it can be worked out; whether and to what extent the present owners of the Ethyl Corporation would retain any interest in the manufacture or sale of tetraethyl lead if the mutualization plan were put through, are all secondary questions. The only primary point is that we have promised definitely to present a mutualization plan of some kind to our customers, and find ourselves wholly unable to do so until we have corrected this supply situation.

2. Our definite proposal for the solution of this difficulty did not attempt to bargain at the moment as between the du Pont Company and the Ethyl Corporation, but only to establish the principles on which a clean-up of an impossible

—2—

situation could be made. If these principles can be agreed upon we have no doubt that the exact dollars and cents relations of the parties can be worked out satisfactorily. The principles of solution suggested were as follows:

There would be organized an Ethyl-du Pont Company, the common stock of which would be owned by the Ethyl Corporation (or its stockholders) and du Pont. The Ethyl-du Pont Company would lease from the du Pont Company the Deepwater plant for the manufacture of lead. The lease would run for a long enough term to provide for com-

plete amortization of the plant. The rental would be fixed to cover all fixed charges, taxes, depreciation and interest at ordinary rates on the capital invested. The Ethyl-du Pont Company would then contract with the du Pont Company to operate this plant at cost and according to the directions of the Ethyl-du Pont Company for the account and risk of that Company. The Ethyl-du Pont Company might, in the course of time and if it were economic to do so, build plants at sites other than at Deepwater and undertake the operation of them itself, or it might, in the alternative, have them built by the du Pont Company and operated under contract in the same manner.

The Ethyl Corporation would grant to the Ethyl-du Pont Company an exclusive license for the manufacture of tetraethyl lead, or it might in the alternative transfer the patents themselves controlling the manufacture (but not the use) to the Ethyl-du Pont Company. In return the Ethyl-du Pont Company would make an agreement to provide the lead requirements of the Ethyl Corporation on some satisfactory basis, the principle of which is that the manufacturing company is entitled to a fair return on its capital and compensation for the experience and skill of its management.

As we mentioned to you, the arrangement suggested is a solution in principle of the problem of the Ethyl Corporation as a similar problem was worked out and is in satisfactory operation in the case of the alcohol business of the Standard Oil Company (New Jersey), which was passed to the control of an alcohol company owned jointly by Jersey, Barnsdall and National Distillers. We have the assurance of this practical example that the minor difficulties which will arise in the working out of a scheme

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of this kind are all capable of satisfactory settlement if there is a will on both sides to work out the arrangement.

The above refers only to the domestic business and exports from the United States. It is well understood that if it becomes necessary to manufacture outside of the United States the Ethyl Export Corporation would have to take into account local national chemical interests.

Yours very truly,

(S) A. E. Mitnacht

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NOTE: At lower right of both pages is written "GMC-585d".



4663

To: F. SPARRE, DIRECTOR

SERIAL No. D-1013

FROM: N. P. WESCOTT

JUNE 9, 1936

ORIGINS AND EARLY HISTORY OF THE  
TETRAETHYL LEAD BUSINESS

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VIEWPOINT AND SCOPE  
OF THE PRESENT STUDY

Evidences have for some time been apparent of a renewed desire on the part of the Standard Oil Company of New Jersey to go into the manufacture of tetraethyl lead. Since February 26, 1930, all basic contracts between the du Pont Company and the Ethyl Gasoline Corporation have contained a provision obligating each party, as of January 1, 1938, to disclose fully to the other all technical information which it shall then possess relating to such manufacture, and to license the other under its patents. In these circumstances, we have been directed to make a comprehensive review of the facts attending the origin and development of the present large business in the manufacture and marketing of tetraethyl lead, in order to determine, apart from the present contract position, what special grounds may exist on which the du Pont Company's desire to continue producing the entire tetraethyl lead requirements of the Ethyl Gasoline Corporation can be supported.\*

In this undertaking, attention has been concentrated mainly on the early history of the enterprise; first because the reasons sought are more likely to exist in the formative period, and second because the events of later years are no doubt already generally in mind.

In this early period, it appears that issues were threshed out and decisions were made largely in personal discussions among certain of the principal officers of General Motors, Standard Oil and the du Pont Company. Moreover, especially in the very earliest stages, some matters which later became important to the joint development were handled

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\*For convenient reference, a copy of the contract provision in question is attached as Exhibit "A".

without any du Pont participation. Consequently the written record, as it is available in the Company's

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files, is somewhat fragmentary; and for a complete reconstruction of this early picture, recourse would be necessary also to General Motors and Standard Oil sources. For the present purpose, however, that has not appeared desirable; and the following statement is therefore submitted as representing the essential facts so far as they are determinable from the du Pont Company's records. While some additions and amendments would no doubt result if General Motors and Standard Oil sources were similarly explored, we believe it unlikely that there would be any such amount of correction as would materially change the general purport of our story, from the present practical viewpoint.\*

The available records on this subject were found to have been distributed among a dozen or more different files. In order to bring into their proper relationship the facts extracted from these various sources, so that the main lines of action and results could be more clearly understood in relation to each other and to the general course of events over the years in question, it was found necessary to re-assemble all our separate findings of any apparent consequence into the time sequence in which the original events occurred. The resulting memorandum, in the thought that it may prove useful for reference as an adjunct of this report, is attached as Exhibit "B".

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\*At the very end of this report, the desirability is pointed out of a critical review of our findings by the responsible individuals who were the Company's chief agents and spokesmen in the events we have sought to describe.



**BASIC DISCOVERIES  
BY GENERAL MOTORS**

At about the close of the War, General Motors was engaged, under the active direction of Mr. C. F. Kettering, in an intensive investigation of the nature and causes of the "knocking" by which a limit is set to increased compression in internal combustion engines. This was shortly proved to be due to detonation of the fuel, and a

—4—

persistent search was carried out for the best practicable means by which to remove or set back this barrier to increased efficiency in motor design.

The necessary chemical research was in the hands of Mr. Thomas Midgley, Jr. Iodine, which was found to have anti-knock properties, was tried out; anilin was found to be effective but proved impracticable because of the quantities required; and the search was finally narrowed down to the use of alkyl metals and centered at last upon tetraethyl lead, which proved to be outstandingly the best material.\*

Under date of March 24, 1922, a concise memorandum describing "Mr. Kettering's new doping compound" was sent from Detroit by Mr. P. S. du Pont, then President

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\*Although never in commercial production, tetraethyl lead had been known for some seventy years as a laboratory product, of highly toxic nature. The basic discovery of General Motors, therefore, consisted not in the original synthesis of the product but in the development of its technically striking and economically valuable use as a knock suppressor.

It is also of interest to recall that an important special motive for this research was General Motors' desire to fortify itself against the exhaustion or prohibitive cost of the gasoline supply, which was then believed to be impending in about twenty-five years—the thought being that the high-compression motors which should by that time have been brought into general use if knocking could be overcome, could more advantageously be switched to alcohol.

of the General Motors Corporation, to Mr. Irénée du Pont as President of the du Pont Company, with the comment that "The development looks very promising". It was there set forth, on Mr. Kettering's authority, that tetraethyl lead could be used effectively in the proportion of one part by volume to 1 000 or 1 500 parts of gasoline; that its use would permit a material increase in compression, with a saving of not less than one-quarter of the gasoline ordinarily consumed; and that "it would require about 4 500 000 gallons (about 58 500 000 pounds) per annum to dope the entire gasoline supply". The method of production was described as

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leading through ethyl iodide, zinc ethyl and lead chloride. The highly dangerous character of the material as a contact poison was emphasized. The memorandum ended with the statement that Mr. Kettering "would like to take up the question of manufacture with the du Pont Company representatives at an early date".\*

The prohibitive cost, on a commercial scale, of the production method outlined in this memorandum was shortly apparent. Inquiries made through the du Pont Company's European office indicated a probable cost for iodine, on a tonnage basis, of more than \$2.00 a pound. In the research which was continuously in progress at Dayton, bromine was then turned to as an ethylating agent: and on July 10, 1922, Mr. Irénée du Pont wrote Mr. Kettering, referring to a visit the latter was shortly to make to Wilmington, that arrangements were being made for him to meet some of the men in the Chemical and Dyestuffs Departments and

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\*By reason of its exceptional interest among the early documents of the tetraethyl lead developments, a complete copy of this memorandum is attached as Exhibit "C".

closing with the request, "When you come, will you bring your latest information on the production of 'dope' by the bromine method".

In the subsequent development of the ethyl bromide process up to the stage of successful manufacture on a commercial scale, the full co-operation of the du Pont Company was invoked; and aid was rendered to this development by the Experimental Station as well as by the Dye-stuffs Department. In its origin, however, the ethyl bromide process, which was the first practicable method for the commercial production of tetraethyl lead, belongs, along with the basic discovery of the use of tetraethyl lead in gasoline, among the important contributions which were made to this enterprise by the General Motors Corporation.

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#### EARLY DU PONT MANUFACTURE; BROMINE SUPPLY NECK OF BOTTLE

On October 6, 1922, the first in the long series of contracts for the manufacture of tetraethyl lead was entered into, with the General Motors Corporation and the du Pont Company as the contracting parties. Under this agreement, the du Pont Company obligated itself to build a plant to produce tetraethyl lead at the rate of at least 1 300 pounds a day, and undertook to begin deliveries within four months from receipt of notice. Manufacture was of course to be by the ethyl bromide process, which had been originated by General Motors, and which was at that time the only known method of reasonably assured practicability for quantity production. The price was set at \$2.00 a pound (intended to include amortization of the plant) for the first year of 300 shipping days, subject to adjustment for further yearly



periods. The intent was plainly stated to be that the contract should be "a continuing one", the du Pont Company undertaking to produce exclusively for General Motors, and General Motors agreeing to take its full requirements from the du Pont Company, except in the event of the latter's inability or unwillingness to produce the entire quantities required.

Under this initial contract, the required notice to go ahead with construction was received about the first of April, 1923; and plant-scale production of tetraethyl lead by the bromide process was begun early in September. The completion of the plant and starting of manufacture had been delayed about a month beyond schedule through efforts to overcome certain unexpectedly persistent process and poison difficulties which were encountered in the actual working out of this pioneer undertaking. In this plant unit, with subsequent enlargements, manufacture was continued without interruption until May 2, 1925, by which time the du Pont Company had produced a total of 2 137 000 pounds of tetraethyl lead by the bromide process.

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In the meanwhile, however, the use of the product had promptly developed certain practical difficulties due to the deposition of metallic lead in the motor, especially the sticking of valve stems; and for these troubles, the most satisfactory preventive was found to be the use of ethylene dibromide in the fuel. There was thus a double requirement for bromine; and the bromine put into the "Ethyl fluid", unlike that used in the manufacture of tetraethyl lead, was of course consumed without any recovery. At the outset, the comparative shortage of the world's supply of



bromine from commercially developed sources, in relation to this prospective dual demand, was seen to be a limiting factor for the whole tetraethyl lead development. The new "Ethyl gas", upon its introduction to the market, had met with a surprisingly favorable acceptance; and in order best to meet the rapidly growing demand it was shortly found necessary to apportion the available supplies of bromine between the demand for mixing with the fuel and the requirements for use in manufacture.

In the effort to develop adequate supplies of bromine, the resources of the du Pont Company were of course placed at the disposal of the joint enterprise; and in various directions, the search was actively prosecuted by both du Pont and General Motors, with the aid shortly also of Standard Oil, more or less continuously over a period of two full years beginning with June, 1923. Among the du Pont Company's efforts, the European commercial sources were canvassed; the extraction of bromine from sea water in the form of tribromanilin by a process which had been originated in the General Motors laboratory at Dayton was proved practicable by experimental demonstration with a floating plant; and the brines of various Southwestern lakes were investigated, while preliminary consideration

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was given to similar natural possibilities in foreign countries.\*

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\*In the present connection, the details of the above undertaking's designed to open up new sources of bromine appear unimportant. With respect to the substantial cost, aggregating upwards of \$400 000, of the rather ambitious experimental project with the Steamship Ethyl, however; it may be worth while to recall that there was undoubtedly a large measure of compensation in the effect of this well publicised experiment in the minds of the established domestic and foreign pro-

All these undertakings, however, while not devoid of ultimate advantage to the Ethyl gasoline business, were to be sharply held up by the setback which that business was to sustain through the disaster at Bayway in October, 1924 and the suspension of sales six months later, and to be rendered of less urgent importance by the subsequent successful development of the ethyl chloride process for producing tetraethyl lead.

But to return to the main current of our story, the first public filling station for Ethyl gas had been established at Dayton, Ohio on February 1, 1923; and in June of that year ten Ethyl gas stations were opened in Cincinnati, while a second one was operating at Dayton. The results of these preliminary soundings of the market, and of the early publicity, more than met expectations. The introduction of Ethyl gas by the Standard Oil Company of Indiana in the Middle West followed promptly, with highly gratifying results; and evidences were numerous of an active, widespread and growing interest on the part of both the oil industry and the general public.

In short, the test of actual use had fully confirmed the technical soundness of General Motors' basic discovery; and the stage appeared plainly set for a prompt commercial success of great magnitude. The crucial problem appeared to be that of expanding productive capacity to keep pace with the rapidly growing demand. In December, 1923, Mr. Irénée du Pont wrote to Mr. A. P. Sloan, Jr., the

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ducers of bromine, who set the prices which the new consuming industry was forced to pay. It may also be noted that all this work of investigation and experimentation was handled practically without compensation to the du Pont Company beyond the actual cost of carrying it on.

new President of General Motors, urging prompt provision for the coming summer's requirements; and on January 12, 1924 a supplementary agreement was entered into between the du Pont Company and General Motors, providing for a quick enlargement of the bromide process unit at Deepwater to a daily capacity of 6 800 pounds, or sixfold the original minimum. Two days later Mr. du Pont wrote Mr. W. F. Harrington as follows:

"It is essential that we treat this undertaking like a war order so far as making speed and producing the output, not only in order to fulfill the terms of the contract as to time but because every day saved means one day advantage over possible competition and bringing one day nearer the huge production which I think will come about".

At Deepwater, construction and production proceeded under great pressure and with general success, though not without serious difficulties, as will be shown below. Throughout the spring, summer and early fall of 1924, the highly favorable market indications of the previous year continued and grew even stronger. In May, General Motors was reported to be looking forward to a fifty-fold expansion: In July, Standard Oil of Indiana (the outstandingly big customer of all the early years) was clamoring for an increased supply, and a great number of inquiries were coming in from unopened territories. Under this pressure of urgent demand, express shipments were being made from Deepwater, with notifications by wire; and the plant was stepping up its daily output to 5 200 pounds, then to 6 500 pounds, and hoping to achieve a daily flow of 9 100 pounds by the first of August.

Up to this point—that is, through the summer and up to the fall of 1924—it should be remembered, all commercial production was by the bromide process, originated by General Motors and brought into successful factory application by du Pont; and the actual carrying on of the joint enterprise was confined to these two companies, with the responsibility for the manufacture of tetraethyl lead resting exclusively with the du Pont Company.

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#### EARLY DEATHS FROM TETRAETHYL LEAD POISONING

In the early fall of 1924, one shadow lay athwart the brilliant prospect which has just been described for the new enterprise: the danger of serious difficulties from the highly toxic character of the material.

Against this risk, it appears that the precautions which normally prudent judgment would have been expected to dictate; were taken at Deepwater. The case was one of exploring and taking over hitherto unoccupied territory in the chemical industry; and the need for caution in the necessary process of feeling out the way was obviously under some pressure from the urge to get out production. The available records seem to show plainly enough, however, that there was no reckless rush to that end. In the course of the development, a long succession of special measures were recommended, approved, and carried out in the interest of protecting the working forces, at substantial cost in investment and—what then must frequently have seemed more important—in time. As difficulties developed, partial or complete shutdowns were freely adopted in order that the knowledge gained might be applied in



strengthening and multiplying the safeguards. When the full measure of the peril was apparent, it seems not too much to say that protection against it was put ahead of every other consideration. In short, it appears from the record that the du Pont Company's regular policies of plant safety and accident prevention were normally applied in the development of tetraethyl lead manufacture at Deepwater.

Nevertheless, after a considerable number of men had been more or less seriously affected, the first known death from tetraethyl lead poisoning occurred on September 21, 1923. The victim was one of the operators in the ethyl bromide process plant at Deepwater.

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Seven months later, at about the end of April or the beginning of May, 1924, there were two deaths at Dayton, among the General Motors employees working on tetraethyl lead.

In June, 1924, Mr. Sloan, gravely concerned about the poison hazard, initiated a plan for a special medical committee, to be composed of one representative each of General Motors, the du Pont Company, and Standard Oil of N. J., to study and co-ordinate all the information obtainable and to formulate practical measures for the best possible utilization of the knowledge gained. In line with this aim, special research was instituted, with the financial support of the interested companies, at Columbia University and at the Bureau of Mines.\*

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\*In the long subsequent development of the medical phase of the new industry, the results of later years sufficiently attest the good work which has been done by the du Pont Company's own Medical Division. Among its collaborators, some special mention seems necessary of the persistent interest and practical contributions of

On July 30, 1924, a second man died from poisoning in the operating force at Deepwater, a laborer handling sludge. Two weeks later, on August 12th, a pipefitter in the Engineering Department force there died.

On October 20, 1924, a colored man employed as a laboratory helper died, the fourth and last fatality from tetraethyl lead poisoning connected with the bromide process plant at Deepwater.\*\*

Without minimizing the deplorable character of these misfortunes, or disparaging the fate of the individuals concerned, it seems proper here to add certain general comments. In the first

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place, the deaths incurred in this early stage of the du Pont Company's development of tetraethyl lead manufacture, and in the somewhat later and concluding stage of the same development, represent no sudden holocaust due to the neglect of precautions that should clearly have been taken, but rather the slow and gradual toll which humanity has always paid, and perhaps must always pay, for the conquest of new and dangerous ground. Next, against the price which was paid, definite and permanent progress in bringing this humanly valuable new art to a basis of assured and permanent safety was accomplished. And finally, there was no public hysteria; and within the du Pont Company, there was no panic, and no despair of the final outcome. There was persistent, earnest study on the part

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Dr. Robert A. Kehoe, of the University of Cincinnati, who was brought in originally as the General Motors representative on this early medical committee.

\*\*For convenient reference, a memorandum of the above and all subsequent fatalities from tetraethyl lead poisoning, in the order of their occurrence, is appended as Exhibit "D".

of the entire group of responsible individuals concerned, and insistent effort to seize upon every successive bit of additional knowledge and experience and to consolidate it into the gradually increasing basis for the future safe conduct of the operation.\*

On August 20, 1924, the medical committee of the three companies appointed pursuant to Mr. Sloan's recommendation had submitted its preliminary report; and on August 29th, Mr. Irénée du Pont wrote to Mr. Sloan, in part as follows:

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"I have read the Doctors' report on poisoning and am not disturbed by the severity of the findings. So far as manufacture is concerned, it is not as bad as nitroglycerin; so far as filling stations are concerned, I cannot believe it is as bad as dyna-

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\*One episode related to the poison hazard in this early period which perhaps requires mention in any account of the development of the tetraethyl lead business but of which the details appear to have scant interest from the present viewpoint, is the iron carbonyl development of the German I.G. The Germans, whose interest had been attracted by the early success of tetraethyl lead, found anti-knock properties in iron carbonyl, filed broad patent applications conflicting with those of Mr. Midgley, undertook the commercial exploitation of their product in Europe and sought a working arrangement for the United States with the du Pont Company. Active consideration was given to the possibility of substituting this material for tetraethyl lead when it appeared that the poison hazard of tetraethyl lead might prove prohibitive. Experimental testing by Mr. Kettering with a Buick car in Europe, however, showed iron carbonyl to have apparently very serious drawbacks in fouling plugs and obstructing lubrication; and in August, 1925, a tentative agreement under which manufacture in the U.S. would have been conducted by a 65%-du Pont-owned subsidiary was called off by Badische. On Jan. 10, 1927, however, an agreement was signed between I.G. and Ethyl Gas. Corp. in which each recognized the other's patents and I.G. was given the right to manufacture iron carbonyl for any exploitation of that material by Ethyl Gas. Corp. in the U.S. market.

mite; so far as injury to the public by loading the dust of the streets with lead is concerned, I do not believe it will be a fraction of the amount of lead which normally goes into the streets by the gradual erosion of white lead in the painting of the buildings".

**G.M.-STANDARD OIL ALLIANCE;  
ETHYL GAS. CORP. FORMED**

At the outset, realizing the need of co-operation from within the oil industry and desiring naturally to have the advantage of the high standing and superior marketing facilities in the East of the Standard Oil Company of New Jersey, General Motors had contracted with that company to become the exclusive distributor of tetraethyl lead in its territory for a term of eighteen months, following a certain preparatory period. Contrary, however, to the evident administrative intent, some of the Corporation's representatives had apparently gone far beyond that arrangement in encouraging technical endeavors on the part of Standard Oil, which led to hopes of a much broader participation in the development. The resulting situation was presented on January 28, 1924 in a letter by Mr. Sloan, to Mr. Irénée du Pont, reading in part as follows:

"I have just had a talk with two or three of the high officials of the Standard Oil Company of New Jersey, covering our relations with them; i.e., their relations with the General Motors Chemical Company, with reference to this tetraethyl lead picture, dealing with distribution here and abroad and various other phases of the matter that they wanted to discuss. In connection with the situation I would



like to pass on to you the following in order that you might consider it and I might profit by your reaction.

There apparently has been more or less discussion between Mr. Kettering and these people in the past month regarding the manufacture of tetraethyl lead. They say—whether they are right or not I do not know—that six or seven months ago in discussing this particular point with Mr. Kettering and Mr. Midgley they were encouraged to see what they could do in developing a process for making tetraethyl lead, hoping thereby to discover something

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that would result in a much lower cost of production. They take the position now that they feel they have a method which is covered by patents which in effect will give, so far as their studies go, a lower cost of production but, naturally, that can only be demonstrated by an actual works development.

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With the above atmosphere, which is given you in order to intelligently reach the point I want to make, the Standard Oil people are urging very strongly a deal whereby they want to capitalize the present exclusive contract by exercising the right they have to license competitors covering the use of tetraethyl lead, thereby getting a broader distribution which they claim will be to our interest and in return for that they want the right to manufacture

for our account tetraethyl lead at a price competitive with the du Pont Company.

To this proposal, Mr. Sloan expressed himself as radically opposed. At that time there had been only one death from poisoning, and apparently that hazard was not especially in mind. Mr. Sloan questioned the soundness, however, from General Motors' standpoint, of allowing Standard Oil to manufacture tetraethyl lead while having "such a large slice" of its distribution. He expressed confidence in the du Pont Company's ability to reach the lowest attainable cost of production. And he concluded:

"If it develops that these people have a process which, due to the nature of same, it should be cheaper from the standpoint of manufacture, I personally would much rather obtain a license from them, pay for it and get the du Pont Company to use it in reducing the cost than I would to deal with the Standard Oil Company as a manufacturer."

Naturally, prompt concurrence in this view was expressed by the du Pont Company; and in a characteristically tactful letter to Mr. Joseph H. Senior, of the Standard Oil Company on February 4, 1924, Mr. Sloan made plain the unwillingness of General

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Motors to have the distributing contract used for trading purposes with respect to production, or to enlist Standard

\*Six months before Mr. Sloan's letter, Mr. Kettering had written Mr. Irénée du Pont, on June 8, 1923, that Standard Oil had "perfected a process" for the production of tetraethyl lead; that they claimed a low cost; and that they wanted a year's contract for a small daily volume as a try-out on manufacture.

Oil as a manufacturer of tetraethyl lead. At the same time, he sought to hold open the door for utilizing the new process which Standard Oil was understood to have developed, under "some plan which will be constructive and preserve all the equities in the case."

Nevertheless, Standard Oil persisted in the desire to manufacture tetraethyl lead. And out of the situation just broadly described grew shortly the Ethyl Gasoline Corporation, chartered August 18, 1924, to be owned one-half each by General Motors and Standard Oil, and to take over in their entirety the physical assets and contract obligations of the General Motors Chemical Company and the marketing phase of the tetraethyl lead development. From the viewpoint of the Standard Oil Company, the case was thus stated in an article in the October, 1924 issue of its house organ, "The Lamp":

"The General Motors Corporation is engaged in the manufacture and sale of automobiles and automotive equipment. The Standard Oil Company (N.J.) produces and sells all the products of petroleum. Neither company felt itself in a position to carry on as a side issue the manufacture and sale of a new product not directly connected either with the business of making cars or producing gasoline and lubricating oils. Yet the field for ethylized gasoline is so important, both to the motor companies and to the oil companies that it was felt that the resources of the leading concerns in each field should be put behind the production and distribution of Ethyl fluid."

ETHYL CHLORIDE PROCESS  
PROVIDED BY STANDARD OIL

Just how and when General Motors' basic discovery of the remarkable effect of tetraethyl lead as a knock suppressor came to the knowledge of Standard Oil of New Jersey, is not apparent from the files of the du Pont Company. It appears, however, that at least as far back as 1922 Standard Oil had this information, and was

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engaged in an independent research to develop a satisfactory method of producing tetraethyl lead, of which the great potential importance in its own field must have been strikingly apparent to that pioneer concern in the petroleum industry. The beginning of this developmental undertaking, it will be noted, must have preceded by a good many months the particular communications on the part of Messrs. Kettering and Midgley referred to by Mr. Sloan in his letter of January 28, 1924 from which we have quoted above. In the article in the October, 1924 issue of "The Lamp" also cited above, the matter was put as follows:

"While the du Ponts and the General Motors Chemical Company were working along various lines to obtain an adequate supply of Ethyl, the Standard Oil laboratories, with the help of the foremost expert in the particular branch of chemistry to which this manufacturing process relates, were engaged for two years in perfecting a different and much simplified manufacturing process, which was finally worked out entirely successfully".

This "different and much simplified manufacturing process" (in the "perfecting" of which the degree of success



here attributed to Standard Oil was tragically over-stated, as events were promptly to show) was of course the ethyl chloride process, through the use of which, as afterward successfully developed and applied by the du Pont Company, the great bulk of all tetraethyl lead production to date has been accomplished. In this research, the crucial work appears to have been done by Dr. C. A. Kraus, a chemist of national reputation in his special field, at that time a member of the faculty of Clark and now of Brown University, who had already done pioneer work on metallo-organic compounds, and whose special knowledge and active services, along with his existing patent rights, were promptly enlisted by Standard Oil.

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The immediate and compelling advantage of the ethyl chloride process was that it relieved the bromine stringency by releasing for mixture into Ethyl fluid the quantities of that material which would otherwise have been consumed in the manufacture of tetraethyl lead. There were also substantial savings in production costs and in investment. A still further highly important advantage, perhaps not fully appreciated at the outset, was the reduced poison risk, since the chloride process could be operated with far less handling of dangerous materials than the bromide process.\*

In replying, on February 2, 1924, to the above-quoted letter of January 28th from Mr. Sloan, Mr. Irénée du Pont pointed out:

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\*A partially offsetting disadvantage at the start was the greater difficulty of avoiding equipment leaks under the higher pressures used in the chloride process. Once this problem in design had been solved, however, there was a substantial permanent gain in safety for the chloride process.

"You will recall that in the division of the work on tetra-ethyl-lead we had no part in investigating the chlorine method. Recently, however, we have carried on a few experiments in the laboratory as a matter of information and at no material cost. In the light of our experience with the Bromine method, we have found that very fair yields can be obtained using the same general precautions and it may well be that the straight chlorine method has not the difficulties which it was formerly supposed existed. Of course, anyone starting would naturally suppose the chlorine route was the simplest and cheapest".

While this goes to explain the apparent backwardness of the du Pont Company's developmental results, it of course does not detract from the value of the new method of production which was contributed by Standard Oil. To that company must be accorded the credit of having provided the finally successful process. Moreover, Standard Oil held the Kraus and Callis patent rights and was in a position, if that had been necessary, to enforce its proper claims.

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#### DU PONT CO. DEVELOPS ETHYL CHLORIDE PROCESS MANUFACTURE

Measures were promptly taken looking to the utilization of the new Standard Oil process by the du Pont Company. In January, 1924, work on the ethyl chloride process was begun at the Jackson Laboratory. On June 3, 1924, the very first semi-works production by the chloride process at

Deepwater was accomplished; and on June 14th, Mr. Harrington wrote Mr. Midgley—

“We have made an examination of the Standard Oil Company of New Jersey's process for the manufacture of Tetra Ethyl Lead by the Ethyl Chloride method, and have been able to duplicate their accomplishments. The process followed is essentially the same as their process”.

Under date of October 10, 1924, the first contract of the du Pont Company with the new Ethyl Gasoline Corporation was entered into. In this contract, among other undertakings, the du Pont Company bound itself to build a new plant for manufacture by the ethyl chloride process at Deepwater, and to deliver from 4 000 000 to 5 000 000 pounds of tetraethyl lead, at a price of \$1.17, in the year beginning April 15, 1925.

However, in order to relieve the bromine shortage, to take advantage of the lower cost, and to aid in meeting the insistent and rapidly expanding demand, an earlier start, against quantities booked in the contracts taken over by the Ethyl Gasoline Corporation from the General Motors Chemical Company, was found urgently desirable. Already, on September 4, 1924, pursuant to informal agreement, verbal authorization had been secured to begin construction, and three piles had been driven in a flying start the same day. On December 12th, after fourteen weeks' rush construction on a three-shift basis, with a peak force of 640 men, the new plant was accepted by the Dyestuffs Department from the Engineering Department as practically

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complete. On December 12th, production was started; and

on January 12, 1925, the first shipment of tetraethyl lead from the Deepwater ethyl chloride process plant was made.\*

From that point, progress was by no means smooth nor uninterrupted. Within a few weeks, serious poisoning difficulties developed: and two men were lost in February and two more in March, 1925. Throughout the month of March, there was a complete shutdown for a radical re-vamping of the equipment, and this was followed by a period of retarded and partial operation in order more cautiously to feel out the way. The conditions at fault were successfully corrected, however; and when the order to suspend operations was issued by the Ethyl Gasoline Corporation on May 4, 1925, approximately 190 000 pounds of tetraethyl lead had been produced by the ethyl chloride process at Deepwater and the road ahead appeared clear of serious further obstacles to safe manufacture—an outlook which the subsequent experience would seem fully to have confirmed.\*\*

#### ATTEMPTED MANUFACTURE BY STANDARD; DISASTER AT BAYWAY

In the meanwhile, the desire of General Motors' new partner to participate in the manufacture of the product had been insistently manifest. The Standard Oil repre-

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\*In the design of this new plant, radical changes were worked out and adopted from the equipment installed and recommended by Standard Oil, which upon inspection by the du Pont Company's technical representatives was concluded to be utterly unsafe, as will be related in the next following section.

\*\*A complete memorandum of all deaths from tetraethyl lead poisoning is attached for reference as Exhibit "D".



sentatives were critical of du Pont prices; they were, in general, ambitious to engage in

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chemical manufacture; and they no doubt felt that their company's authorship of the successful process gave them a special right to share the expected profits of producing tetraethyl lead. From the General Motors viewpoint, the case was thus put in a letter from Mr. Sloan to Mr. Irène du Pont on June 27, 1924:

"As I told you over the telephone, I have given this thing a lot of thought and I would be most happy and entirely satisfied to leave the matter entirely in your hands and the only thought that I have given in any other direction is simply to give due consideration to the psychological side and the opinion of our partners, the Standard Oil Company of N. J. in the enterprise. Naturally, they have their viewpoint. They are contributing in a large way to the commercial side of the tetraethyl lead development and for that reason I am bound to listen to what they have to say.

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For psychological reasons we should permit the Standard Oil Company of N. J. to expend \$35,000 or \$40,000 of their own money to experiment with the 100 gallon a day outfit in one of their plants, I believe in Bayway, in a building which they could use temporarily for the purpose. This will serve to satisfy them from the psychological standpoint and it is certain that it will be impossible to operate such

an experimental plant successfully when the larger units are running, but it will give them a means to work out their viewpoint which certainly can do us no damage when we approach it from the bigger way.

Any further thought of developing any real production other than under the auspices of the du Pont Company will be deferred until some later time.

I really feel that the weight of the argument in favor of a geographical separation of units is absolutely essential because you must not fail to appreciate, assuming that no other antiknock material is developed in the meantime and that we have the field to ourselves that in the event of universal distribution which ought to come fairly promptly with the advent of the high compression engine, a contingency would arise whereby the whole automotive industry would be dependent upon tetra-ethyl lead, and irrespective of what any individual opinion might be as to the propriety of putting all our eggs in one basket, I feel sure that none of us would want to carry such a hazard because it is not inconceivable that a fire, a strike or some other catastrophe that could not

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be forecast might put the plant out of business for even a short time and if the supply at that time is not enough to carry over the interval, every motor car in the United States would be out of business. All this, of course, is full of assumptions, neverthe-

less, if we are successful in what we are attempting to do it is a contingency that we must recognize".

In this view, the du Pont Company was of course forced to acquiesce. It was accordingly decided that Standard Oil would go ahead with the construction and operation at Bayway of a plant unit of about semi-works size, to produce 100 gallons, or 1 300 pounds, of tetraethyl lead daily. This was just one-tenth the size of the ethyl chloride process unit which the du Pont Company shortly afterward contracted to construct and operate at Deepwater. On September 15, 1924, the Bayway unit was reported as being in regular operation.

In the summer of 1924, it will be recalled, the extremely hazardous nature of tetraethyl lead was already known to General Motors, du Pont and Standard Oil; and the peril which this might involve for the commercial future of the joint enterprise was appreciated. Fatal results in a total of five cases had already attended the handling of the material at Deepwater and at Dayton. On June 28, 1924, Mr. Irénée du Pont, in writing to Mr. Sloan, had commented (underscores ours) as follows:

"Of course this whole development depends on whether the demand for tetraethyl lead is going to stay. It may be killed by a better substitute or because of its poisonous character or because of its action on the engine".

Notwithstanding this foreknowledge of the peril, the precautions taken in the small manufacturing operation at Bayway were grossly inadequate. On September 3rd, a visit was made to the Standard Oil plant by a group of

du Pont men conversant with this Company's own experience and methods, for the purpose of getting

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all possible new light on the operation of the ethyl chloride process, which was shortly to be brought into use at Deepwater. The extreme danger of both the equipment and the methods observed was immediately apparent, and aroused sharp concern and prompt comment, on the spot. There was more or less constant exposure to fumes and opportunity for direct physical contact of the operatives with the material itself. The efforts of the du Pont representatives at friendly remonstrance and warning, however, appear to have been received with unconcern. At any rate, they were observed to make no apparent serious impression, and they proved entirely ineffective.\*

Two months later, the storm broke. According to a concise account in the November 3, 1924 issue of "Chemical and Metallurgical Engineering", there were at the beginning of the last week in October forty-five employees engaged in the small operation at Bayway, and of these thirty-five were affected with tetraethyl lead poisoning to an extent requiring medical attention. On Saturday, October 25th, five workmen who had been under treatment became seriously ill and were transferred to a hospital in New York City, along with three others seriously affected. Of these five men, the first died on Saturday; the second, on Monday, violently insane; the third, who had been taken to the hospital in a strait-jacket, died on Tuesday; the fourth, on Wednesday; and the fifth, on Thursday.

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\*This du Pont delegation included Messrs. Harrington, Chambers, Bolton, Calcott and Flachslaender of the Dyestuffs Dept. and Messrs. Lawrence and Maguire of the Engineering Dept.



The violent and spectacular nature of this strange malady had at once attracted newspaper attention; and the dramatic sequence of deaths from the small Deepwater operation was naturally played up, with various lurid implications. "There was front line publicity in every paper in the country", according to a review of the occurrence in the 1924 annual report of the Ethyl Gasoline Corporation, "and

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mention was made of the accident abroad". A widespread state of panic and public hysteria followed. The U. S. Public Health Service, in response to a general demand, became active. Legal prohibition of the manufacture or sale of "loony gas" was widely proposed. Among other prompt official pronouncements, the New Jersey Board of Health requested the suspension of manufacture of tetraethyl lead in that state, and the temporary discontinuance of the sale of ethyl gasoline; the Philadelphia Health Board suspended distribution; and the New York City health authorities forbade all ethyl gas sales within their jurisdiction. A sensational "crusade" was carried on by the New York World. Labor organizations urged permanently prohibitive legislation. Among others of national prominence and presumably special qualifications to speak, Dr. Vandell Henderson, of Yale, was outspokenly and persistently denunciatory of the whole tetraethyl lead development. As a basis for criminal action by the State of New Jersey against the Standard Oil Company, a grand jury investigation was promptly instituted.\*

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\*It seems only fair to note at this proceeding a statement was presented by twenty-eight men formerly employed in the tetraethyl lead unit at the Bayway plant, warmly commending the treatment which had been accorded them by the Standard Oil Company and paying a strong personal tribute to J. R. Carringer, Superintendent.

Typifying the more extreme reaction among distributors, the Gulf Refining Company, in a quarter-page newspaper advertisement of November 1, 1924, announced its withdrawal of Ethyl gas from sale "until it can be demonstrated beyond question that it is not detrimental to the public health".

In short, the momentum of the whole tetraethyl lead development was sharply checked, its further progress blocked, and even its future existence rendered uncertain.

The Bayway operation was at once closed down and the plant was shortly dismantled. In the course of its brief career as

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a manufacturer, the Standard Oil Company had produced a total of 32 512 pounds of tetraethyl lead. In a letter of December 4, 1924 to Mr. Irénée du Pont, Mr. Sloan commented, with a touch of humor no doubt entirely unconscious in the tragic circumstances then surrounding the enterprise, that his Standard Oil associates had apparently "changed their entire viewpoint about an independent source of supply".\*

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\*Evidences are conclusive of a firm conviction on the part of Mr. Sloan at that time and later that the du Pont Company would continue permanently as the exclusive source of supply for tetraethyl lead. Thus, on 12/8/24 Mr. Sloan wrote, referring to the past issue of policy as between having du Pont as the sole manufacturer or acceding to Standard Oil's desire to participate: "Now they have gone into it and they will undoubtedly be satisfied for all time. I feel quite certain of that." — And on 12/12/24: "Du Pont will always be the manufacturing agent of Ethyl Gasoline Corporation whether we make tetra ethyl lead or whatever we make, now or in the future. I am sure of that." — And on 2/2/25: "— the great value to Ethyl Gasoline Corp. of being able to capitalize the du Pont organization is greatly recognized now and is bound to be more so as time goes on".

In seeking to appraise the above-described negative contribution of the Standard Oil Company to the tetraethyl lead development, the fact must not be forgotten that repeated loss of life attended also the early work of both General Motors and the du Pont Company; in case of the latter, both before and after the Bayway disaster. As against the above five fatalities, plus one earlier death at Bayway probably due to tetraethyl lead, there had previously been two deaths definitely attributable to tetraethyl lead poisoning at Dayton, and there has been a total of eight at Deepwater, of which

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three had occurred before the fatalities at Bayway. Thus, only a third of the total toll of lives taken by this conquest of new and unknown territory in the chemical industry, was incidental to the activities of Standard Oil.\*

On the other hand, the scale of the du Pont Company's manufacture, even at that early stage of the enterprise, was several times greater than that of Standard Oil, and the risk at Deepwater had been incurred over a much longer period, so that on the obviously reasonable basis of relating the loss of life to the respective totals of worker-hours' exposure, the actual rate of loss was incomparably more severe at Bayway. Moreover, there was never any such almost

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Five years later, in a letter of 4/18/30 to Mr. Lammot du Pont, commenting on the future outlook for Ethyl gas, and suggesting certain main lines of strategy, Mr. Sloan wrote, "It also seems very essential that the manufacturer be confined to one source of supply. I am sure that the du Pont Company and the Ethyl Gasoline Corporation can work together with such satisfaction and with such confidence in one another that no thought can be given to anything different than a single source of supply. If the present source of supply was not the du Pont Company I should feel that our future, after the expiration of our patent, was rather hazardous - - -"

\*For the complete sequence of deaths from tetraethyl lead poisoning, see Exhibit "D".



universal incidence of poisoning at Deepwater as at Bayway; there was no sudden holocaust, no wild panic, and no terrified giving up of the case as hopeless on the part of the management.\*

Everything considered, it seems safe to say that without the devastating catastrophe at Bayway, there would have been no sudden halt and long stoppage of the tetraethyl lead development, and that the paralysis which did befall this new industry was directly, and to all practical intent exclusively, a result of the disaster brought upon it by the utterly inadequate safety precautions attending the attempted manufacture by Standard Oil.

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BUSINESS SUSPENDED;  
FUTURE IN DOUBT;  
YEAR'S PROGRESS LOST

Up to the last week of October, 1924, the outlook for the new development continued bright and its future seemed increasingly assured. A special news letter issued by the Ethyl Gasoline Corporation on October 10, 1924 included the announcement that within the past year about 10 000 Ethyl gas stations had been opened; the October issue of "The Lamp" reported an astonishing market acceptance of

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\*To make this comparison complete, it seems necessary to add that there appears to have been a radical difference in the handling of publicity at the two locations—though perhaps the sudden and sweeping character of the calamity at Bayway made it inevitably a subject for excited newspaper comment. An outstandingly successful job appears to have been done by the Publicity Bureau of the du Pont Company, however, in restraining the tendency toward sensationalism and exaggeration in the press accounts of the poison cases at Deepwater, especially with respect to the two deaths in February and two in March, 1925, following shortly upon the heels of the great excitement attending the Standard Oil fatalities.



tetraethyl lead, with the most optimistic estimates being exceeded 100% and the public demanding the new product in districts not yet opened; and for October, 1924 the recently established Ethyl Gasoline Corporation reported its first monthly profit.

For a while after the catastrophe at Bayway, the business appears to have run along on momentum, and strong hopes were entertained of overcoming the setback it had encountered. For January, 1925, the Ethyl Gasoline Corporation reported a profit of over \$34 000; and a tentative forecast included in its 1924 annual report indicated a possible profit for the year 1925 of \$4 000 000.

However, the tide shortly turned. In general, where positive legal barriers were not maintained, sales resistance increased; and the formerly swelling flow of Ethyl gas into service stations and automobile tanks was increasingly checked, while a considerable counter-current of returns set in. For the last four months of 1924, the Ethyl Gasoline Corporation's sales had averaged about \$500 000 monthly; for the first four months of 1925, the average monthly sales were only about \$200 000. For February, March and April, losses were reported in increasing size, mounting to a current operating loss of some \$61 000 in April. In the meanwhile, of course, the public agitation and the basic uncertainties of the situation continued.

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The decision to suspend operations appears to have been rather suddenly arrived at. On Friday, April 24, 1925, an active board meeting of the Ethyl Gasoline Corporation was held in New York, at which various forward-looking actions were taken and of which the minutes give no in-

termination of any thought of discontinuance. On Monday, April 27th, in response to a 'phone request from General Motors, the officers of the Ethyl Gasoline Corporation submitted estimates indicating probable total losses of well over \$5 000 000 in the event of liquidation. On Monday, May 4, 1925, after a further meeting of its board, the Ethyl Gasoline Corporation notified all its commercial customers (excepting only the Government) that all sales would be suspended, pending a satisfactory determination as to the poison hazard, as of the following day. This action was vigorously opposed by Mr. Irénée du Pont, who appears to have stood alone.

To this decision to suspend operations, it appears likely that the four deaths at Deepwater in February and March, 1925, in some degree contributed. True, there was on that account no failure, or threatened failure, of the supply of tetraethyl lead; the bromide process was being operated successfully, at Deepwater, and there was no thought of any permanent abandonment of the chloride process operation there.\* But with respect to the intangible elements of

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\*On 4/9/25, Mr. Irénée du Pont wrote Mr. Midgley:

"Harrington tells me that he does not expect to be able to run the Ethyl Chloride plant at its rated capacity at an early date. He is running one digester and proposes to continue to do so for a number of days still before gradually increasing the operation; this because he is unwilling to jeopardize his men and the whole success of the undertaking by hurrying the manufacture, thereby increasing the hazard of a repetition of our previous trouble."

On 4/10/25, however, Mr. Midgley replied:

"I note that Ethyl chloride plant is going to be short but do not see that under present conditions this is particularly hazardous because of the ample stock we have on hand at Dayton."

the situation, the case was different. The agitation let loose by the Bayway disaster was in full force; the widespread fears as to the safety of the new product had not been allayed by any long experience or any authoritative statement of expert opinion; and there was reason for grave apprehension as to the possible effect upon General Motors and Standard Oil of the public resentment which might result from further deaths attributable to tetraethyl lead. In these circumstances, it seems plain that the unexpected further fatalities at Deepwater must have had a considerable effect in influencing the minds of the General Motors and Standard Oil representatives on the Ethyl Gasoline Corporation's board toward the suspension of sales which was finally made effective on May 5, 1925. That effect, however, was at most only of secondary importance, in supplementing the consequences of the Bayway disaster, without which it appears quite safe to say that the decision to suspend sales would never have been taken.

Upon the suspension of sales, the Ethyl Gasoline Corporation proposed that the unexecuted part of its contract with the du Pont Company be held in abeyance to await the final outcome. The du Pont Company pointed out that this would be impracticable. Prompt cancellation of the contract and liquidation of the losses thereby incurred was insisted upon; and on June 9, 1925, the Company presented its itemized bill for a total of \$1 922 475.

Included in this total, among other items, was approximately \$1 364 000 for the construction costs of the chloride process plant, \$160 000 for research expenditures in developing the chloride process, and \$52 000 for interest on the capital invested up to the expected settlement date of July 1, 1925. In brief, the principle of the proposed settle-



ment was that the du Pont Company was entitled to be made whole on its costs and would forego any claim for prospective profits under the contract, apart from interest, on condition of prompt

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settlement. On June 30, 1925, \$1 500 000 was paid on account; and in April, 1926, after various minor adjustments, final settlement was accomplished at a total of roundly \$1 821 000, slightly reduced by subsequent small credits for recovered materials.\*

Payment of the Ethyl Gasoline Corporation's obligations was accomplished by borrowing from its two stockholders, General Motors and Standard Oil, which had been guarantors of its performance under its contract with the du Pont Company. At the end of 1925 these borrowings stood at a total of over \$4 000 000.\*\*

In the prevailing state of strong prejudice and excited fears, the new industry was fortunate in having the question of the health risk in the use of tetraethyl lead actively taken up, in response to what appears to have been a general demand, for dispassionate examination under the direction

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\*In addition, the Ethyl Gasoline Corporation assumed the burden of certain raw materials contracts, and had of course important losses of its own, mainly in connection with bromine procurement.

\*\*The out-of-pocket losses of the Ethyl Gas. Corp. (though not, of course, the losses of time and momentum and of potential profits) were substantially reduced through the subsequent resumption of its business. Thus, in a letter accompanying the invoice of June 9th, Mr. Irénée du Pont had said, referring to the possible future resumption and manufacture, "We can, however, agree that in making a price, should you desire it, we will not include in cost any item of amortization of the plant which has already been paid for"; and on February 2, 1926, the Ethyl Gas. Corp. board ordered "that the cost of construction of the du Pont chloride process tetra-ethyl lead plant, amounting to \$1 364 219.88, be carried on the books as a contingent asset, to be written off over a period of 5 years".



of the U. S. Public Health Service. On December 10, 1924, Mr. W. F. Harrington and Mr. Howard, of Standard Oil, went to Washington and canvassed the poison problem in a preliminary way with Surgeon General Cummings. At the very threshold of that problem, of course, stood the question of the possibility of safe manufacture. In the ensuing critical weeks of professional investigation and discussion, the du Pont Company's plant

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installation, methods, experience, and belief in the practicability of safe manufacture were thrown open to examination by the interested medical authorities. It is beyond question that the results were, on the whole, reassuring. And this preliminary reassurance would appear to have been of the utmost value in holding the way open for the recovery of the stricken industry.

On May 20, 1925, after awaiting results from the special research in progress at Columbia University and the Bureau of Mines, the Surgeon General held in Washington a conference of public health officers, medical authorities, union labor officials and others interested, including representatives of the commercial interests concerned. The technical utility and great economic value of tetraethyl lead were presented by Messrs. Kettering and Howard. As to the hazards in manufacture, Mr. Harrington reported reassuringly on the basis of the du Pont Company's experience, saying in conclusion:

"We have no doubt at all from the manufacturing point of view but that tetraethyl lead in proper hands, in the proper plant designs, and under a proper discipline can be manufactured successfully".

After extended discussion from the wide variety of viewpoints represented, the Surgeon General was finally requested by this conference to appoint a committee of "seven recognized authorities in clinical medicine, physiology, and industrial hygiene" to investigate and report upon "the health hazard involved in the retail distribution and general use of tetraethyl lead gasoline motor fluid".\*

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On June 8, 1924, the Surgeon General announced his appointments. An intensive investigation followed, and on January 17, 1926, the committee presented its report. The essential finding was that no sufficient grounds had been discovered for prohibiting the distribution and use of gasoline containing the standard proportion (1 : 1300 by volume) of tetraethyl lead. The formulation by the Surgeon General of suitable regulations to govern the manufacture, distribution and use of the product was recommended; and this proposal was duly acted upon and the resulting regulations have subsequently been observed.

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\*The Bureau of Mines in its previous study had divided the general problem into the three questions of (1) the hazard in manufacturing and handling the concentrated tetraethyl lead; (2) the possible hazard in handling Ethyl gasoline; and (3) the possible hazard due to exhaust gases from automobiles using Ethyl gasoline. With respect to the first question, the apparently successful experience of the du Pont Company and the Ethyl Gasoline Corporation in overcoming the perils of manufacture and blending appears to have been accepted; though in October the Surgeon General's committee inspected the Deepwater plant and were apparently further reassured by their observation of the methods and precautions in effect there. On the second and third questions, the indications after some ten months of study by the Bureau of Mines and at Columbia had been strongly negative, but were not accepted as conclusive. The resolution of the conference also endorsed "as wise the decision of the Ethyl Gasoline Corporation to discontinue temporarily the sale of Ethyl gas".

To make the necessary fresh start after the sudden stoppage and long inaction which had befallen the new industry, proved a matter of months. Under date of March 31, 1926, however, a new contract was entered into for the manufacture by the du Pont Company of the Ethyl Gasoline Corporation's entire requirements of tetraethyl lead. On May 1, 1926, the Ethyl Gasoline Corporation resumed commercial sales, after a stoppage of one year lacking four days. And on June 1, 1926, the manufacture of tetraethyl lead was again started at Deepwater, in the ethyl chloride process plant, after extensive reconditioning.

At this critical turning point in the history of the development, the following important changes from the previous practice were adopted, and have since been successfully adhered to, up to the present time:

1. The du Pont Company became the sole manufacturer of tetraethyl lead.
2. The du Pont Company also took over, under a separate contract, the somewhat perilous and closely related operation of blending the essential ingredients into Ethyl fluid.
3. The mixing of small quantities of Ethyl gas at retail distributing points was abandoned, and the necessary final mixing operation was concentrated at the re-

fineries and large terminal depots of the Ethyl Gasoline Corporation's customers.

4. The business was made subject to a simple set of broad, practical regulations, recommended by the



Surgeon General to govern the handling and distribution of the product, including the prescribed maximum limit of 1 part tetraethyl lead by volume to 1 300 parts gasoline.

Thus, at last, the tetraethyl lead development had come clear of the morass of poison troubles which had so nearly proved its permanent grave.

For the sake of its significance from the present viewpoint, it is here necessary to add an uncomfortable brief sequel. In May, 1926, Mr. E. E. Webb, President of the Ethyl Gasoline Corporation, tentatively signed in Denver, Colorado a ten-year contract with a local concern, American Research Laboratories, claiming a low-cost new process, to manufacture tetraethyl lead for his company. Just how this small Western enterprise was expected to escape the perils that had overwhelmed the Standard Oil Company's undertaking, is not entirely clear from the record, and cannot be learned from the outcome, because this fate-tempting venture was promptly abandoned on the emphatic protest of Mr. Irénée du Pont as a director of the Ethyl Gasoline Corporation.

#### DU PONT REFUSAL TO ACCEPT DEFEAT

No attempt to summarize the troubled early history of the tetraethyl lead business would be complete without mention of the contribution which was made to the enterprise at this critical stage through the refusal of the du Pont Company to adopt a defeatist policy, and especially through the persistent confidence and determination of Mr. Irénée



du Pont, in his contacts with his General Motors and Standard Oil associates. In this regard, the written record is

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unfortunately fragmentary, since the exchange of views in this period of stress was naturally carried on for the most part in personal discussions. Enough is apparent from the files, however, to make fairly clear the substance of what must have happened.

The administrative direction of the development throughout the formative period was in the hands of Mr. Sloan, Mr. Irénée du Pont, and one or two of the higher officials of the Standard Oil Company. At the initial board meeting on December 23, 1924, Mr. du Pont, by request of Mr. Sloan and his Standard Oil associates, became a director of the Ethyl Gasoline Corporation.

For a proper understanding of what subsequently occurred, it is necessary to bear in mind that both the General Motors Corporation and the Standard Oil Company were regularly engaged in the production and sale of consumer goods. For each of these two corporations, it was a matter of vital concern to maintain unimpaired the widespread popular goodwill which it had come to enjoy in the sale of its major products; and for each, the Ethyl gas development, though regarded as having great possibilities, was after all an undertaking of minor importance. From the common viewpoint of both General Motors and Standard Oil, therefore, the claims of their already established lines to assured protection must have seemed a consideration of paramount importance. The experience with tetraethyl lead was currently disastrous, and the future prospect seriously threatening. There was no certainty that the

manufacture of the product could ever be brought to any basis of assured and permanent safety; and serious fears were current as to the possible health risk to the general public in its use. In these circumstances, the question must have been inescapably insistent to the minds of prudent management, of whether this new venture had not best be summarily abandoned for the protection of the more important interests for which the administrative officers of General Motors and Standard Oil were primarily responsible.

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In that predicament, Mr. du Pont appears to have taken the lead in constructive analysis of the problem and in persistent encouragement of his associates. The occasional written evidences make it plain that he never lost confidence in the essential soundness of the tetraethyl lead development, nor in the practical possibility of bringing it to eventual success. The suspension of manufacture and sales agreed upon at the Ethyl Gas board meeting of May 4, 1925 appears to have been against his unshaken though entirely single-handed opposition. And throughout the months of investigation by the Surgeon General's Committee, while the development lay dormant, and during the subsequent period in which the Ethyl Gasoline Corporation's business was being started all over again, the record shows that he was constantly pressing for speed and for decisive forward action.

In this persistent confidence in the ultimate practicability of safe manufacture, it appears also from the record that the President of the Company was unfalteringly supported by Mr. Harrington, who was more directly responsible for

the success of the operation at Deepwater, and by the production organization behind him.

**SAFETY ACHIEVED;  
LONG RECORD OF SUCCESSFUL PRODUCTION**

In the ten years of continuous production and blending of tetraethyl lead, exclusively by the du Pont Company, which have followed the resumption of manufacture in 1926, there has been no repetition of the serious difficulties from poisoning which in the early stage of this development took so deplorable a toll of life and rendered the continuance of the industry uncertain. The records show only one death in any way connected with tetraethyl lead manufacture; and that case appears to have been one of ordinary inorganic lead poisoning, such as occasionally attends working with the metal in

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various long-established trades.\* There has never been any general recurrence of poisoning, even in minor degree; and through a policy of careful exclusion of unsuitable men, constant watchfulness, and insistence upon the utmost precautions in the design, use and maintenance of equipment, the health of the workers in the tetraethyl lead area has been consistently maintained at an exceptionally high average level. In short, while the manufacture of this product must always be attended with the sort of inherent risk which is inseparable from any handling of poisonous or otherwise dangerous materials, it seems not too much to say, on the strength of the past ten years' experience, that

\*For the essential facts of this case, see the final supplementary note of Exhibit "D".

the goal of safety in manufacture, according to any reasonable interpretation of the terms, has in this case been attained. This, of course, is distinctly and exclusively an achievement of the du Pont Company; and it is perhaps the paramount contribution which this company has been able to make to the success of the industry.

Apart from this crucially important matter of safety, the record affords an outstanding example of the gradual reduction of costs and prices with expanding volume. The results in this regard have been comprehensively presented in a recent memorandum (bearing date 10/15/35) of the Treasurer's Department. For convenient reference, we attach as Exhibit "E" Mr. King's figures for the yearly quantities and average prices of the Company's output of tetraethyl lead, together with a simple graphic translation of those figures.

From the record, the present price of 28 cents a pound appears far to have excelled any early expectations or even hopes of what might be accomplished. In this price are reflected, of course, not only the great increase in volume but also the substantial savings in direct costs which the du Pont Company has been able to accomplish through a large number of specific improvements in manufacturing equipment and methods in its own long, intensive development of the ethyl chloride process of manufacture.

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RADICAL POLICY DIFFERENCE:  
FREE VS. RESTRICTED SELLING

At this point, it is convenient to add a brief account of a radical difference of view as to policy between Mr. Irénée du Pont and his co-directors of the Ethyl Gasoline Corpora-



tion which, though not directly relevant to the present practical issue, has yet a certain bearing upon it, and which in any event could hardly be omitted from any recital of the early history of tetraethyl lead. This difference of opinion was sharply developed when business was resumed after a year's suspension, at the beginning of May, 1926.

From the start, Mr. du Pont stood out vigorously for a policy of free selling. He maintained that the best interests of the business lay in offering Ethyl fluid freely to all reputable refiners for use in their own private brands in any proportions they might desire within the limits prescribed by the Surgeon General, leaving the question of quality in non-premium fuels to be governed by the self-interest of the individual customer. He would have insisted only upon proper safety precautions on the part of all customers, and upon the maintenance of uniform quality standards in fuel sold under the "Ethyl Gas" brand. A representative statement of Mr. du Pont's views is attached as Exhibit "F".\*

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\*Against the credit which the Company can properly claim for Mr. du Pont's long, persistent and apparently for the most part single-handed advocacy of the marketing policy which has since been so strikingly vindicated by experience, some partial offset should perhaps be noted on account of a temporary change of position six months before that policy was finally adopted. In October, 1932, Mr. Webb reported that the customer opposition which a year earlier had blocked free selling was still practically universal, and that most customers attributed the sharp decline in Ethyl gas sales to the depression; and he suggested waiting until the following spring "to see what happens". Mr. du Pont concurred, saying (letter of 11/17/32), "By all means we should stand pat for a few months at least and not be driven to a radical change based on insufficient experience." On March 16, 1933, Mr. du Pont again wrote Mr. Webb, in part as follows: "I concur with you in your belief that we should open the way to a general sale of Ethyl fluid. I opposed this somewhat at the last meeting that I attended, not that I did not

The opposite view, firmly maintained over a long period by Messrs. Sloan, Donaldson Brown, Webb and others, held out for a continuance of rigid standardization, with the necessary corollary of restricted selling. Under this theory, reliance for expansion of sales was upon the gradual building up of consumer demand for "Ethyl Gas" through the strict maintenance of proper anti-knock standards, backed up with persistent national advertising. Of necessity, the nationally advertised product, standardized at a relatively high level, must sell at a premium. And under this policy, for the better protection of "Ethyl Gas", the use of tetraethyl lead was consistently refused to would-be customers for use in varying minor proportions in the great number of "regular", or non-premium, brands of gasoline.

The restricted selling policy prevailed at the outset, and was not finally abandoned until the adoption of the "Q" brand plan in April, 1933.\*

A tremendous expansion of tetraethyl lead sales promptly followed. In this connection, the volume curve of Exhibit "E" will be found strongly impressive.

By that time, of course, some of the early objections which had been urged against the policy of free selling had been removed by the passage of time and the development of the business. The extraordinary expansion of sales

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believe in it, but because it seemed to me that we might well try to hold the value of the good name of Ethyl gas, which had been obtained at great expense, on the theory that the depression is likely to be soon over and we would get back our business. - - - but am willing to back your point of view because basically it is sound."

\*An earlier effort, in the fall of 1931, to throw open the use of tetraethyl lead to non-premium gasoline had been blocked by the strong, general opposition of established customers, many of whom had by that time made large investments in cracking equipment, through the use of which it had been found that the anti-knock rating of gasoline could be greatly improved.

following the adoption of the free selling policy, therefore, does not necessarily prove that that policy would have been, at the very start, the better course to follow. With respect to that question, there might conceivably still be some difference of opinion. Nevertheless, from the doubling and trebling of the sales volume of tetraethyl lead which promptly followed the adoption of free selling in 1933, it would seem difficult not to conclude at least that it would have been highly advantageous to adopt that policy at a much earlier stage of the development.

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#### SUMMARY OF ESSENTIAL CONTRIBUTIONS BY SOURCES

At this point, it has appeared desirable to endeavor to sum up the important contributions which have been made to the origination, support and gradual upbuilding of the tetraethyl lead business as it exists today by each of the four corporate authors of the joint development. The essential facts, already for the most part set forth more at length in the preceding sections, we believe may be fairly summarized as follows:

##### 1. BY GENERAL MOTORS:

a. The Basic Discovery, fundamental to everything else, that a slight admixture of tetraethyl lead in gasoline will, within certain limits, prevent "knocking" and thus permit the use of higher compression ratios, with a consequent large increase in motor and fuel efficiency.

b. Perfection of Use. The development of suitable means (at present, essentially the use of ethylene dibro-

mide) to overcome the practical difficulties in motor operation by which, at the outset, the successful use of tetraethyl lead was threatened,

c. Initial Development of Ethyl Bromide Process. General Motors did the initial pioneering in the production of tetraethyl lead by the ethyl bromide process, by which nine-tenths of the entire commercial supply up to the suspension of sales in 1924 was afterward produced.

d. Guidance and Sponsorship from within Automotive Industry. From the start, the commercial success of tetraethyl lead has depended, among other factors, upon its acceptance by the automotive industry and by the oil industry; and complete, up-to-date knowledge of the basic facts and current trends of motor design and of refinery and gasoline merchandising practice has therefore been constantly needful, as well as the active support of important producers in both these special fields. General Motors, of course, has been ideally in a position to supply the necessary information and special assistance from within the automotive industry, and its sponsorship has no doubt been helpful in somewhat more readily bringing about the acceptance and partial utilization of the tetraethyl lead development which has thus far taken place on the part of the motor manufacturers.\*

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e. Financial Risk Carried. In general, it appears that the major investment risks of the tetraethyl lead

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\*In this regard, the public announcement of the adoption of high compression in new models by Chrysler on July 3, 1927 would appear to have been an important turning point; while the frequent early opposition of Buick and other G.M. dealers to Ethyl gas must be charged up against the credit to which General Motors is entitled for its sponsorship of tetraethyl lead.



business, viewed as a whole, were carried initially by General Motors and, since about the middle of 1924, have been shared equally by General Motors and Standard Oil. In degree of risk, this burden was concentrated mainly in the early stages of the development, and became acutely serious with the 1925-26 suspension of sales. Before that crisis was past, the Ethyl Gasoline Corporation's balance sheet showed an admitted deficit of over \$2 000 000; and (disregarding salvage, which would have been relatively small if the business had not been successfully re-established) General Motors and Standard Oil together stood to lose a total, in investment and loans, of more than \$6 000 000.\*

## 2. BY STANDARD OIL:

a. Providing Ethyl Chloride Process. To Standard Oil must be accorded the credit of having provided the ethyl chloride process, which is cheaper than any other known method of making tetraethyl lead, is believed to be inherently safer than the bromide process, and had the further merit, especially important in the critical early years of the development, of substantially reducing the new industry's requirements for bromine.\*\*

\*The du Pont Company's contribution of financial risk assumed, seems to have been relatively negligible, because throughout this critical early period of uncertainty the practice was to provide in each contract for amortization of the necessary plant construction costs in the price of the tetraethyl lead to be manufactured, and because the early contracts were all either signed by General Motors or guaranteed by General Motors and Standard Oil.

\*\*Just what part of the credit for scientific achievement in originating the ethyl chloride process belongs to Dr. Kraus individually and what part to the regular Standard Oil research organization, is not plain from the information to which we

b. Guidance and Sponsorship from within Oil Industry. From its vantage point as the historic leader of the American oil industry and the world's largest producer of petroleum products, the Standard Oil Company of New Jersey has of course been in an excellent position to contribute with respect to that industry, just as has General Motors among automotive producers, the necessary inside information, special assistance, and sponsorship for the tetraethyl lead development.\*\*\*

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c. Financial Risk Carried. One-half the major financial risks of the tetraethyl lead business, viewed as a whole, since about the middle of 1924, has been carried by Standard Oil, as set forth above in describing General Motors' contributions. /

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have access. From the present viewpoint, however, that question appears unimportant. Standard Oil procured, if it did not entirely originate, the successful process, and made it available to the joint enterprise.

\*\*\*On this point of special co-operation and sponsorship, in connection with the parallel comments in the above foot-note on the corresponding General Motors item, it is interesting to recall (1) the strong support which was at the outset given to the tetraethyl lead development by Standard Oil of Indiana and (2) the refusal of Standard Oil of New Jersey, beginning with 1926, to use the "Ethyl Gasoline" brand with its "Esso", in the face of the Ethyl Gas. Corp.'s then prevailing cardinal policy of standardization upon, and national advertising of, that brand. Moreover, against Standard Oil's credit under the above head, it would seem that a substantial offset might be proper on account of the long delayed adoption of the policy of selling tetraethyl lead for use in non-premium gasoline, on the theory that the compelling advantages of that policy ought to have been convincingly apparent at a much earlier date from the vantage point within the oil industry from which Standard Oil was supposed to be piloting the Ethyl Gasoline Corporation.

d. Severe Setback; Loss of Year. As a negative entry, operating to offset its credit for the above contributions, Standard Oil must be charged with the disastrous consequences of its manufacturing adventure at Bayway, by which the very existence of the tetraethyl lead development was seriously threatened at the outset and one whole year of progress and profits was lost to it.

3. BY ETHYL GAS. CORP.:

a. Commercial Exploitation. A successful job of market development in merchandising the product to the oil industry and the motoring public, on a profitable and expanding scale, in a fairly continuous if not uninterrupted succession of volume advances over a total period to date of nearly twelve years.

4. BY THE DU PONT COMPANY:

a. Early Tonnage Production by Bromide Process. In its infancy, this business depended for its existence on the production of an adequate supply of tetraethyl lead by the ethyl bromide process. The du Pont Company took over that process at the early pioneering stage reached by General Motors, developed it in the face of great difficulties into a sound and assuredly practical operation, and produced by it a total of well over 2 000 000 pounds before the suspension of sales in May, 1925. Up to the end of 1924, apart from the slight initial output of the General Motors laboratory and the approximately 32 000 pounds which came in the fall of that year from the abortive undertaking at Bayway, this bromide process production by the du Pont Company was the sole manufacturing support of the business.



b. Important Moral Contributions. Most important of these was the persistent and finally triumphant refusal to accept defeat, effective mainly through the spirit maintained by Mr. Irénée du Pont in his relations with his General Motors and Standard Oil associates over the period when the outlook was darkest and when the thought was inescapable that the tetraethyl lead enterprise might perhaps best be jettisoned for the protection of the paramount general interests of those two corporations. Also to be included, we believe, was Mr. du Pont's vigorous, persistent and apparently single-handed advocacy, over a long period, of the policy of free selling, without restriction of use to premium gasoline, which finally found adoption in 1933.\*

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c. Convincing U.S. Public Health Service that Safe Manufacture was Practicable. By the close of 1924 and the early part of 1925, practically the power of life and death over the tetraethyl lead development had been placed by the course of events in the hands of the public health authorities of the country. There was no apparent assurance that the product could ever be manufactured safely, and current developments were strongly discouraging. At this critical stage, the du Pont Company's representatives, through personal interviews, demonstrations of the Deepwater facilities and methods, and analysis of the Company's experience, succeeded in convincing the interested medical authorities that safe manufacture was a practical possibility. Thus, the op-

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\*The temporary abandonment of this advocacy just prior to the final adoption of the policy in 1933 is noted in the preceding section.



portunity for further progress and final results was salvaged at a time when otherwise the door to the future would inevitably have been closed in the face of the new industry.

d. Development of Manufacture by Chloride Process. The ethyl chloride process as contributed by Standard Oil was still practically in the laboratory stage; and that company's own effort to develop manufacture by it resulted in disaster and was precipitately abandoned. At that juncture, the whole future of the business depended on the successful development of safe, economical manufacture. The constructive, pioneer work in chemical engineering, industrial medicine and factory practice necessary to that end was successfully accomplished by the du Pont Company. By that success the business was saved; and that success was essential to its salvation.\*

e. Specific Improvements in Chloride Process. A considerable number of important improvements in the

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\*To some extent—the final measure of which must perhaps remain a matter of opinion, or of feeling—the weight of this paramount claim of the du Pont Company may be reduced by the fact that in the settlement of the du Pont contract following the suspension of sales in 1925, the Ethyl Gas. Corp. paid not only for the plant but also for the invoiced cost of the entire du Pont research work on the chloride process up to that date. —At least it is easy to imagine the Ethyl Gas. Corp. or its stockholders contending that after they had bought and paid for all the early du Pont developmental work, the entire fruits of that work, however important they may later have become, should belong to them. In fact, just about that claim was registered at the time of the settlement, as will be made plain in the next following section.

A large part of the total developmental work accomplished by the du Pont Company in bringing the ethyl chloride process to its present stage of successful application, however, has of course been done since that time.

basic manufacturing process, upon which the present economy of large scale production is largely dependent, including especially the use of a dispersing agent in the sludge, have been contributed by the du Pont Company.

f. Unbroken Record of Successful Production.

Finally, to the credit of the du Pont Company stand thirteen years of continuously successful production, in widely expanding volume and at constantly diminishing cost, with no interruption of the progress of the Ethyl Gasoline Corporation through any inadequacy or threatened inadequacy in the manufacture of its basic material, and with a gradually descending price scale to facilitate its progress in expanding its sales.

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GENESIS OF OBLIGATION TO GIVE  
INFORMATION AND PATENT RIGHTS

The developments which, in 1930, resulted in the adoption of the contract provision set forth in Exhibit "A", have already been described in a letter by Mr. E. G. Robinson to the President under date of August 12, 1935. Even at the cost of some repetition, however, it has seemed worth while to examine the entire series of manufacturing contracts for similar and possibly related provisions and to set down here the essential facts with respect to all contractual undertakings to impart information and rights on du Pont improvements in the manufacture of tetraethyl lead, from the beginning of the industry to the present time. This phase of the story, we find, divides itself sharply into three successive periods, as follows:

1. From Start to Suspension of Sales in 1925—  
Du Pont Co. Bound to Make Outright Assignment of  
All Patent Applications.

The very first contract was between the du Pont Company and the General Motors Corporation as parties. At that time, the basic discovery, belonging to General Motors, was no doubt paramount in everybody's mind, together with the fact that the intended use of the product would be controlled by the General Motors (Midgley) patents; and the du Pont Company, coming in simply as manufacturer for General Motors and with no important contribution to the enterprise at that time standing to its credit, was somewhat in the position of a man who hires himself out to work in another's field. In such case, it is a long established principle that hidden treasure discovered by the worker belongs to the owner of the field; and in the initial contract of October 6, 1922, the following provision was included:

"Further, the Manufacturer agrees that if at any time during the term of this agreement it invents, originates or develops an anti knock compound or any apparatus, device or other matter or thing in anywise connected with or relating to the manufacture of an anti knock compound and which may be capable of being patented in the United States of America or elsewhere, that it will take all necessary steps so to do, and will promptly assign all applications for such patents to the Purchaser upon its request."

When, two years later, the first in the long series of contracts between the du Pont Company and the

Ethyl Gasoline Corporation came to be made, it not only remained true that the product was to be marketed under the General Motors

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(Midgley) patents, but it was also the fact that the intended manufacture was, for the most part, to be carried out under the Standard Oil (Kraus & Callis) patents. In this contract, then, the above provision was continued, with only minor changes, intended to strengthen it.

Apparently, there were no actual assignments of patent applications under this early provision because all progress was halted by the disaster at Bayway before matters had progressed that far. It is important to recall, however, that in the contract cancellation settlement following the suspension of sales in 1925, the Ethyl Gasoline Corporation paid the du Pont Company \$160 000 in reimbursement of the entire cost of all the research work which it had theretofore done in its development of the ethyl chloride process. That research was of course fundamental to the long course of subsequent developmental work and manufacturing experience which began with the resumption of business a year later, and out of which the du Pont Company's present favorable position in the use of the ethyl chloride process has gradually been built up. On general principles, as suggested in a foot-note in the preceding section, it would appear difficult to deny the claim that this payment fairly entitles the Ethyl Gasoline Corporation to ownership of the fruits of the research for



which it paid; although no clear principle is apparent to us upon which to determine the extent of those benefits in relation to the now existing total of du Pont "know how" and patent rights, and any approximate determination must no doubt be, as already suggested, a matter of individual judgment or feeling.

On the eve of the settlement, however, we find that the Ethyl Gasoline Corporation's claim to the ownership of the fruits of this early research was presented in principle in the second of the following two paragraphs, which we quote from a memorandum of June 29, 1925 from Mr. Howard to Mr. Webb, headed "Adjustment of du Pont Contract":

"Pursuant to the arrangements made by you, Mr. Teagle and Mr. Sloan, Mr. Donaldson Brown and the writer discussed the adjustment of the du Pont contract today and arrived at the following unanimous conclusion as to a basis of settlement:

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1. Recognizing the fact that the ethyl chloride manufacturing contract carried with it the agreement on the part of the du Ponts to assign patent rights relating to improvements in the manufacture of antiknock to the Ethyl Corp., and in further consideration of the fact that the cost of all research work is included in the sum for which we reimburse the du Pont Co., the Ethyl Corp. is to have the full benefit of all this research work, so as to be able to employ the results thereof, either itself or through others, just as effectively as the du Pont Co. is able to employ it."

In response to this claim, in a letter by Mr. Irénée du Pont dated July, 1925 and bearing his notation "Read to Webb but not sent to him", we find the following paragraph:

"Our contract speaks for itself as regards ceding to you any inventions on anti-knock compounds but we could not undertake to teach you, or your appointees, how to carry on that manufacture as well as we could do. We can tell you what we have learned but that does not of necessity mean that your appointee could do it himself without a good deal of coaching."

2. From Resumption of Business in 1926 to Feb. 26, 1930—Du Pont Co. Free of All Obligation as to Patent Rights or Information.

When a fresh start came to be made, in 1926, a new contract was necessary. Prior to its formulation, the view was convincingly urged by Mr. Irénée du Pont that the old requirement for the assignment of patent rights on du Pont improvements would inevitably tend to discourage developmental effort by taking away its natural reward, thus holding back progress and resulting in the long run to the detriment of both parties. This view was adopted, and the previous requirements for the assignment of patent rights was excluded entirely from the new contract of March 31, 1926.

This condition of entire freedom on the part of the du Pont Company from any obligation to assign patent rights or impart information upon its improvements, continued over a period of approximately four years.

During that period, two successive new contracts were entered into, on March 31, 1928 and on August 26, 1929, and both were entirely free of any requirement to give the "know how" or patent rights on du Pont developments.

3. From Feb. 26, 1930 to Present Time—Reciprocal Obligation to Furnish Information and Patent Rights.

By 1930, the management of the Ethyl Gasoline Corporation had come to feel anxious about what might happen to its business when the basic use patent expired. At that prospective turning point, with its former patent monopoly of the market ended and with all manufacturing knowledge and facilities concentrated in the hands of its former source of supply, it was obvious that the further success, or even existence, of the Ethyl Gasoline Corporation, in the absence of some special provision for its protection, would be more or less at the mercy of the du Pont Company. Mr. Webb therefore proposed that the contract about to be entered into should include an undertaking on the part of the du Pont Company to confine its sales of tetraethyl lead exclusively to the Ethyl Gasoline Corporation for a number of years after the expiration of the basic use patent equal to the previous period over which the du Pont Company had been the exclusive manufacturer by the chloride process. For reasons which now seem not entirely clear, however, this proposed expedient for meeting the acknowledged need of the situation was regarded as unsatisfactory to the du Pont Company; and instead of it, the provision set forth in Exhibit "A" was

included in the new contract signed as of February 26, 1930.\*

At the time of its adoption, this provision was regarded as not entirely satisfactory, and it was thought that it might be replaced in later contracts with some other provision, perhaps "on an entirely different basis", which would accomplish the desired purpose of protecting the Ethyl Gasoline Corporation's position when its patent protection expired. This thought was not realized, however; and the provision quoted in Exhibit "A" has been repeated without change in all subsequent contracts.

So much for the facts to date, in order as they have occurred. With respect to the now existing crucial contract provision quoted in Exhibit "A", it appears worth while to add some brief comment on four points of apparent present practical importance:

a. On the du Pont side in the 1930 negotiation, it was not at all expected that the Ethyl Gasoline Corporation would actually go into the manufacture of tetraethyl lead when the necessary manufacturing information and rights became available to it in 1938. The thought was that the new contract provision would serve simply as a sort of bond to insure the good behavior of the du Pont Company in not unfairly invading the proper province of the Ethyl Gasoline Corpora-

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\*In the opinion of the Legal Department, an arrangement of the sort originally proposed by Mr. Webb, under which the du Pont Company and the Ethyl Gasoline Corporation would agree to work exclusively together in the manufacture and marketing of tetraethyl lead for a term of years following the expiration of the basic patents, would not be illegal.



tion in the marketing end of the business. For this view there is strong support in the 1930 files of the du Pont Company. Apparently, however, Mr. Webb now takes the position that entry into manufacture was definitely contemplated when the provision in question was adopted. And entirely consonant with this view, of course, is the general past disposition of the Ethyl Gasoline Corporation's management to be dissatisfied with the policy of relying exclusively upon the du Pont Company to manufacture tetraethyl lead, and the occasional past efforts to set up some other source of supply.

b. In the existing contract provision as quoted in Exhibit "A", it is expressly stated that the manufacturing rights to be granted shall be "non-assignable". This naturally suggests the question of whether, under that provision, the Ethyl Gasoline Corporation could contract with Standard Oil to manufacture for it, using the du Pont special knowledge and improvement patents. The Legal Department's answer to that question is, in brief, yes.

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c. When the provision of Exhibit "A" was first adopted, in 1930, the effective patent monopoly was expected to terminate with the expiration on February 23, 1943 of the original Midgley patent, No. 1 573 846, covering the product made by combining tetraethyl lead with gasoline; and the date of January 1, 1938 was written into the contract to allow a period of approximately five years before that expected termination of the patent monopoly. In December, 1930, however, Midgley patent No. 1 787 419 was issued, covering the use as a motor fuel of tetraethyl lead in combination with

gasoline. This patent had been divided off from the original application at the insistence of the Patent Office; and through its issuance, the effective period of patent protection is now believed to have been extended to December 30, 1947. Thus, the existing contract provision quoted in Exhibit "A" would result in equipping the Ethyl Gasoline Corporation with the du Pont Company's manufacturing information and patent rights ten years before the end of the period of effective patent protection, instead of five years as was originally intended.

d. Finally, taking in review the entire recital above, we think it worth while to point out that the right which the Ethyl Gasoline Corporation is now entitled to claim under the contract provision quoted in Exhibit "A" grew out of special circumstances which were first thought to demand attention in 1930, and does not trace back to the original contract undertaking of the du Pont Company to convey its patent applications, nor to the payment for du Pont research costs on the ethyl chloride process which was made by the Ethyl Gasoline Corporation in 1925. Between those early events and the first adoption of the contract provision of Exhibit "A", there was an unbroken period of four years, including a succession of three separate contracts, in which the du Pont Company was left entirely free of any contract obligation whatever to communicate manufacturing information or grant rights under its patents. Thus, while the equities originating in the first of the three stages described above may be supplemental to the right that can now be claimed under the contract provision of Exhibit "A", those earlier equities did not serve in

any way as a foundation for that provision, and had, in fact, apparently been abandoned at the time of its adoption.

#### PATENTS—ESSENTIALS OF PRESENT POSITION

For convenient reference, it has been thought worth while to add at this point a brief statement of the essential facts with respect to such patents as are believed to be of substantial importance in the tetraethyl lead business as it is now constituted.\*

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Most briefly, we are concerned with:

1. The Midgley patents, held by General Motors, controlling the use of tetraethyl lead in motor fuels, under which the Ethyl Gasoline Corporation operates by license on a royalty basis.

2. The Kraus and Callis patents, held by Standard Oil, controlling manufacture by the ethyl chloride process, under which the Ethyl Gasoline Corporation, holding an exclusive general license, sub-licenses the du Pont Company; and

3. Various patents held by the du Pont Company covering improvements in the operation of the ethyl chloride process. Comparable with, and complementary

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\*The information here presented has been for the most part condensed from a preliminary report prepared by Mr. Grabill of the Patent Division for Mr. Robinson under date of Nov. 19, 1935 and from a memorandum prepared by Mr. Biesterfeld and Mr. Connolly for this Department under date of Jan. 6, 1936.

to, this third group is the considerable body of secret information and manufacturing "know how" built up by the Company over its twelve years of gradually improving operation of the ethyl chloride process.\*

Since there would be no manufacture without the prospect of profitable use, and since the Midgley patents dominate the use of tetraethyl lead in its only known application of large commercial value, those patents are basic to all others in this industry, and of paramount importance. Since no other known method of producing tetraethyl lead can compete with the ethyl chloride process, the Kraus and Callis patents are of closely secondary importance. The du Pont Company's patents and secret information, while believed to have substantial value in connection with any large-scale production of tetraethyl lead, relate to details of the successful manufacturing process, which is already dominated as to its main essentials by the Kraus and Callis patents, and are therefore of subordinate character and of less than controlling importance.

More specifically, with respect to numbers, exact nature, and dates of expiration, the dominant patents of the first two groups above and the probably most important two patents of the third group, are as follows:

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\*The du Pont patents were issued to, and assigned to the company by, Messrs. Amick, Calcott, Daudt, Dowing, Fielding, Monroe, Parmelee, Pedersen, Stecher, and perhaps others. There are approximately thirty of these patents, plus a third as many more pending applications.



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Essential Invention CoveredWill Expire1. G. M. (Midgley)#1 573 846 Product: T.E.L. with gaso-  
line 2/23/43#1 787 419 Process: Using ditto as motor  
fuel 12/30/472. S.O. (K. & C.)#1 697 245 Ethyl chloride process of  
manufacture 1/1/463. Du Pont#1 645 375 Adding dispersion agent to  
reaction mass 10/11/44#2 004 160 Adding wetting agent to lead  
sludge 6/11/52

In all apparent likelihood, the effective end of the Ethyl Gasoline Corporation's patent protection will be December 30, 1947, when the second of the above five patents expires. If, however, the courts should refuse to sustain the extension of a patent monopoly conferred by that use patent beyond the life of the basic product patent listed just before it above (which possible refusal is thought less likely because the separation was ordered by the Patent Office itself), then the end of the Ethyl Gasoline Corporation's effective patent protection should come with the expiration of the third patent above, covering the ethyl chloride process of manufacture, on January 1, 1946. It thus appears that, beginning with and including 1937, the Ethyl Gasoline Corporation can look forward to a further period of probably eleven years, or at the worst nine years, of further patent protection.

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### CONCLUDING SUGGESTIONS FROM VIEWPOINT OF PRESENT STUDY

The present study has been essentially fact-finding in character and aim; and the considerations which should govern strategy and tactics in further negotiations with the Ethyl Gasoline Corporation will no doubt be more fully apparent from the administrative viewpoint than from the briefer and more restricted view afforded us in this investigation. Consequently, the specific recommendations which regularly conclude reports of this Department seem hardly called for in this case, and our undertaking might perhaps be held completed with the preceding sections. Nevertheless, for the sake of whatever suggestive value they may be found to have, we venture to submit the following final comments from the particular viewpoint of this study:

1. As to Gratitude. It has been suggested, since the tetraethyl lead development was rescued by the du Pont Company from early destruction, and since the business today undoubtedly owes its existence to the du Pont Company's success in holding the door of opportunity open to it and in establishing the manufacture of the product upon a safe and economic basis, that proper gratitude on the part of the associated interests should result in the du Pont Company's being allowed to continue indefinitely as the exclusive source of tetraethyl lead supply for the Ethyl Gasoline Corporation. Our study has entirely confirmed our confidence in the premises just stated, but greatly weakened any hope in the conclusion.

Parenthetically, it may be remarked that the above "Summary of Essential Contributions by Sources" is

entirely qualitative. We have not attempted definite evaluations. To cast up the balance on a quantitative basis would demand too much of arbitrary judgment to be conclusive. Broad comparisons can be made as to relative values, but considerable allowance must still be left for differences of opinion.

As between Standard Oil and the du Pont Company, there seems no doubt that the du Pont Company's contributions to the joint enterprise have greatly preponderated in value. When the business had been shipwrecked through Standard Oil's misadventure, and that company was forced to abandon manufacture, it was the du Pont Company that took the derelict over and brought it to a condition of complete seaworthiness. Without the du Pont Company's contributions, there would in all likelihood be no tetraethyl lead business today; the same can hardly be said with respect to Standard Oil's contributions.

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Nevertheless, we believe the obligation of gratitude can hardly be expected to prevail with the responsible officials of the Standard Oil Company against their own ideas of the comparative value of Standard Oil's contributions, the rewards which the du Pont Company has already enjoyed, and Standard Oil's 50% ownership of the subsidiary which consumes the product and controls the patents.

2. Poison Hazard. A few years ago, prudence would no doubt have been a stronger argument than gratitude, for continued exclusive manufacture by the du Pont Company. The recent preparations, with

active du Pont support, for setting up manufacture in Germany, Italy and elsewhere, however, would seem now to preclude this argument. The practicability of safe manufacture by others, now that the trail has been blazed by the du Pont Company, would appear to be established in the minds of all parties concerned.

3. Trial Period. Obviously, the above described unexpected extension of the Ethyl Gasoline Corporation's probable period of effective patent protection suggests a corresponding deferment of the contract date for conveying manufacturing rights. Since the original idea was to allow only a five-year period for bringing the communicated knowledge into successful application, and since five years would certainly be ample for that purpose, it would seem that any further contract in which the present Section 11 may have to be included, should set the date for conveying du Pont information and patent rights not at January 1, 1938 but at January 1, 1943, or five years in advance of the now-indicated end of the Ethyl Gasoline Corporation's period of basic patent protection instead of ten years.

4. Analysis by Motives. A helpful approach in working out the strategy for further negotiation, now or some years hence when the end of the period of basic patent protection approaches, would appear to consist in seeking to determine just what are the really effective motives behind the proposal to divide the manufacture of tetraethyl lead and in dealing with them separately. Conceivably, the main force may lie either in:

1. Standard Oil's ambition to share in the profits of manufacture; or



2. Ethyl Gasoline Corporation's prudent and natural desires for reasonable protection.

If all proper demands on the second score were first squarely met and satisfied, then any demands on the first score would stand alone; stripped of their past confusing indirect support, and would appear easier to deal with. The proper and reasonable demands of the Ethyl Gasoline Corporation for protection would appear to come under the two heads of:

a. The familiar principle of not having all the in one basket, as to possible interruption of the supply of tetraethyl

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lead by some "act of God or of the public enemy", severe labor disturbance, or like cause; and

b. The peril of being edged off the map by the du Pont Company after the basic patents expire.

As to the first hazard, it would seem that the proposal of a separate plant at St. Louis or some other suitable location would afford practically all the protection that could be had by dividing the manufacture of the product with Standard Oil. With respect to the second peril, as to which the Ethyl Gasoline Corporation's fair right to protection can hardly be denied, the way to a practically complete and satisfactory solution would appear plainly to lie in the direction of Mr. Webb's original proposal of 1930, for a mutually exclusive, long-term working arrangement between the du Pont Company and the Ethyl Gasoline Corporation for the manu-

facture and marketing of tetraethyl lead, to become effective upon the expiration of the basic patents.

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One important special suggestion remains to be added. The present study has been based on, and mainly confined to, the files of the du Pont Company. A highly important further source of information, of course, exists in the recollections of the responsible representatives who acted for the Company in the matters now in question—including especially Messrs. Irénée du Pont and W. F. Harrington. As a suitable basis for requesting these gentlemen to examine our findings and to supplement and perhaps amend our interpretations, it has seemed desirable first to put the results of our study into the present form. We would recommend that this manifestly desirable final critical review of this report by those who were active in the events we have sought to describe, should now be requested.

APPROVED BY:

*W. J. Beadle*

W. J. Beadle

PREPARED BY:

*N. P. Wescott*

N. P. Wescott

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NOTE: Line in margin on page 36 is by hand. "Noted F.S." is stamped at top of first page. "gmc-702" is written at the bottom of each page. Italics indicate handwriting.

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EXHIBIT "A"CONTRACT PROVISION FOR EXCHANGE OF INFORMATION  
AND RIGHTS

As first set forth in the du Pont-Ethyl Gas. Corp. contract of Feb. 20, 1930, repeated in all subsequent contracts, and now embodied in the contract of December 20, 1935, covering tetraethyl lead requirements for the calendar year 1936.

11. Each of the parties agrees that it shall disclose fully to the other, as of January 1, 1938, all technical information which it shall then possess, relating to the manufacture of Tetraethyl Lead (including the manufacture of Lead-Sodium Alloy) under the processes covered by the patents hereinbefore listed, and under any patented or secret improvements or modifications thereof which may have been acquired, controlled or developed by such party prior to said date, and shall grant to the other non-exclusive and non-assignable license or licenses to manufacture Tetraethyl Lead for purposes in connection with the manufacture and/or use of motor fuel under such basic or improvement patents or under any such secret improvements of the process covered thereby, for the respective terms of such patents or any extensions or renewals thereof, or so long as such improvement processes shall remain secret; provided, however, that should Ethyl fail to purchase from du Pont, upon terms mutually satisfactory to the parties, at least 50% of all Tetraethyl Lead, and/or product of a like or similar character, which it shall require in its business for any calendar year prior to January 1, 1938, the aforesaid obligation on the part of each of the parties shall thereupon cease and determine; and provided further, that should Ethyl fail to purchase from du Pont at least 50% of all of said product or products which it shall require in its busi-

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ness for the calendar year commencing January 1, 1938, or any calendar year thereafter, any and all licenses which may then have been granted by either party to the other pursuant to the terms of this agreement shall thereupon expire, cease and determine. The termination of this agreement, as provided elsewhere herein, shall not affect the undertakings set forth in this paragraph. Such licenses shall be without royalty.



EXHIBIT "B"CHRONOLOGICAL OUTLINE OF TETRAETHYL  
LEAD DEVELOPMENT

(Source: du Pont Co. files. Major emphasis on early history. Viewpoint: that of du Pont Co.)

1852

Tetraethyl lead discovered by Loewig.—Thereafter, long known as a laboratory curiosity; no use developed; no commercial production. Recognized as highly toxic.

1918-19

Late 1918 or early 1919, General Motors begins research on nature and causes of, and possible remedies for, "knocking", by which a limit is set to increased compression as a means of improving the efficiency of internal combustion engines.

1920

December—Du Pont Chemical Department working with G.M. Research Corp. on alkylated anilins for knock suppressors.

1922

March 24—Mr. P. S. du Pont sends from Detroit preliminary Memo. describing "Mr. Kettering's new doping compound" and stating Mr. Kettering's desire to "take up the question of manufacture" of tetraethyl lead with the du Pont Company. (See Exhibit "C", below).

July 20—Mr. Kettering at Wilmington: Agreed that du Pont Co. will develop manufacture, G.M. will work

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out use.—Intensive developmental study by Jackson Lab. follows, with semi-works manufacture using bromide process, originated by G.M.

Aug. 15—Jackson Lab. ships G.M. Research first gallon of tetraethyl lead.—Long succession of small express shipments from semi-works production follows, in close sequence.

Oct. 6—First contract for manufacture of tetraethyl lead: Du Pont and G.M. parties. Du Pont to construct plant for manufacture by G.M.'s bromide process. Production to begin 4 mos. after notice; minimum 1 300 pounds daily for one year; price \$2.00. Du Pont required to assign all patent applications to G.M.

#### 1923

Feb. 1—First Ethyl gas filling station established, at Dayton, Ohio. Mixing on spot, with "ethylator".

March 29—General Motors (Midgley) wires du Pont to go ahead with bromide process plant, per contract of 10/6/22.

June, early.—Ten Ethyl gas filling stations opened in Cincinnati.

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#### 1923—Continued

June 8—Mr. Kettering writes Mr. I. du Pont that Standard Oil (N.J.) have "perfected a process" for production of tetraethyl lead; that they claim low cost, want year's contract for 100 gallons (1 300 pounds) daily as try-out on manufacture. (See also Jan. 28, 1924 entry, below).

June 13—Mr. Harrington enlists Development Dept. in comprehensive search for adequate bromine supplies.

June 16—Conference at Longwood on "replanning the production and marketing of tetraethyl lead". Messrs. P.S., I. and L. du Pont, Pickard, Harrington, Sloan and Kettering.

September, early—Plant production (bromide process) begun at Deepwater. (Start delayed through special efforts to overcome unexpected process and poison difficulties).

Sept. 21—First death from tetraethyl lead poisoning—bromide process plant operator at Deepwater.

Dec. 28—Mr. I. du Pont writes Mr. Sloan cautioning about danger of inadequate supply "next summer", urging prompt forecast of requirements.

## 1924

January—Work begun at Jackson Lab. on development of chloride process, originated by Standard Oil.

Jan. 12—By G.M. du Pont agreement (letter by Mr. Sloan) supplementing contract of 10/6/22, Deepwater plant (bromide process) to be expanded to 7800 pounds daily capacity, to take care of sharply increasing requirements. President I. du Pont orders rush construction, "like a war order", foreseeing future "huge production".

Jan. 28—Mr. Sloan writes Mr. I. du Pont that Messrs. Kettering and Midgley have, six or seven months previously, encouraged Standard Oil (N.J.) to undertake development of low-cost process; that Standard Oil claim success, want to manufacture.

Apr. 28—Meeting at Jackson Lab. preliminary to designing autoclave for ethyl chloride process.

April, near end, or early May—Two deaths at Dayton (G.M. employees) from tetraethyl lead poisoning.

May—Public acceptance highly encouraging; future of tetraethyl lead "apparently assured"; G.M. looking forward to 50-fold expansion.

June 3—Very first semi-works production by chloride process at Deepwater (Jackson Lab. operation).

June 14—Mr. Harrington writes Mr. Midgley that we have essentially duplicated Standard Oil's chloride process; already agreed that further extension of bromide process will be precluded by shortage of bromine.

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#### 1924—Continued

June 23—Mr. Sloan, gravely concerned about poison hazard, initiates plan for G.M.-S.O.-Du P. Medical Committee. — Shortly thereafter, committee formed (Drs. Robert A. Kehoe; W. Gilman Thompson, Chairman; A. K. Smith); special research instituted at Bureau of Mines and Columbia University.

June 25—Mr. I. du Pont interviews Mr. Howard, Dr. John and Dr. Peck, of Standard Oil; concludes chloride process decisively cheaper than bromide, and must prevail any way on account of bromine shortage. Believes concentration of manufacture at Deepwater best plan for quick progress, but is forced to accede, for reasons of policy and propriety, to Standard Oil's insistent desire to engage in manufacture.

June 28—Mr. Howard, of Standard Oil, 'phones Mr. I. du Pont "they will go ahead with their hundred-gallon chlorine method plant" (1 300 pounds capacity daily).



June 30—At mid-year point, Mr. Harrington outlines manufacturing progress (bromide process plant) to Mr. Sloan. Production under great pressure. Cumulative shortage of 96 000 pounds below contract minimum up to end of May reduced by June production 37 000 pounds in excess of that month's quota of 65 000 pounds.

July—Unexpectedly rapid expansion of demand for tetraethyl lead. Standard Oil of Indiana (outstandingly big customer throughout entire early period, both before and after year's suspension of sales) and others clamoring for more; numerous inquiries coming in from unopened territories. Express shipments from Deepwater; notifications by wire. Plant (bromide process) stepping up output to 5 200, then 6 500 pounds daily, hoping to reach 9 100 pounds daily from Aug. 1st on.

July 30—Second death from poisoning in bromide process plant at Deepwater.

Aug. 12—Third death from poisoning in bromide process plant at Deepwater.

Aug. 18—Ethyl Gas. Corp. incorporated, with 50-50 G.M. and Standard Oil (N.J.) ownership, to take over physical assets and contract obligations of G.M.Chem. Co. and to carry on commercial exploitation of tetraethyl lead under G.M. patent licenses. (The contracts taken over included long-term exclusive-territorial marketing arrangements with Standard Oil of Ind., and of N.J., and other customers, covering Kansas and all states north, east and south thereof except Nebraska and Oklahoma; and also the original manufacturing

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contract of 10/6/22 and the supplementary agreement of 1/12/24 with du Pont Co.)

Aug. 20—G.M.-S.O.-du P. Medical Committee submits preliminary report on poison hazard; and Mr. I. du Pont (letter 8/29/24) reassures Mr. Sloan: "I have read the Doctors' report on poisoning and am not disturbed by the severity of the findings". Points out: manufacture not bad as nitroglycerine; filling stations not bad as dynamite; dust risk to public only fraction of that from erosion of paint.

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1924—Continued

Sept. 2—Mr. Sloan advises Mr. I. du Pont Standard Oil partners disposed to feel du Pont price too high.

Sept. 3—Du Pont representatives visit Bayway; greatly shocked at manifest danger of equipment and methods, at inadequate safety precautions; their warnings waved aside. Delegation included Messrs. Harrington, Chambers, Bolton, Calcott and Flaechslander, of Dyestuffs Dept., Lawrence and Maguire of Engineering Dept.

Sept. 4—New plant verbally authorized to make tetraethyl lead by chloride process at Deepwater; three piles driven in flying start same day.

Sept. 15—Standard Oil's Bayway plant (semi-works size) in regular operation.

October—Standard Oil "Lamp" reports astonishing public acceptance of tetraethyl lead; most optimistic estimates exceeded 100%; public demanding Ethyl gas in districts not yet opened.

Oct. 10—Special news letter of Ethyl Gas. Corp. announces establishment within past year of about 10,000 Ethyl gas stations.

Oct. 10—Initial du Pont-Ethyl Gas. Corp. contract entered into, guaranteed for Ethyl Gas. Corp. by G.M. and Standard Oil. Refers to two previous du Pont-G.M. agreements (formal contract of 10/6/22 and letter of 1/12/24) as having been taken over by Ethyl Gas. Corp., with balance of 753 000 pounds to be delivered. New undertaking: du Pont to build chloride process plant and deliver therefrom 4- to 5 000 000 pounds in year beginning 4/15/25. Provision included requiring assignment to Ethyl Gas. Corp. of patent applications on all du Pont improvements.

Oct. 20—Fourth (and last) death from poisoning in bromide process plant at Deepwater.

Oct. 24—Director Schmitz, of Badische Co., through Mr. F. W. Pickard, seeks to interest du Pont Company in Badische's "new anti-knock compound, practically non-poisonous and - - - much cheaper to manufacture" than tetraethyl lead. (During a trip abroad in November-December, 1924, Mr. Kettering visited the Badische plant; was shown the new anti-knock material; believed it to be iron carbonyl, which was later confirmed).

October, last week, beginning Saturday, the 25th—Disaster, sudden, swift and complete, at Bayway: Five deaths in quick succession, with practically entire working force poisoned. Sensational attacks by Dr. Yandell Henderson, of Yale, and others; "crusade" by N.Y. World; widespread alarm among newspapers, health authorities and public; excited demands against further manufacture or sale. Bayway tetraethyl lead plant promptly closed down; dismantled; manufacture at Bayway abandoned.

October—First monthly profit result reported by Ethyl Gas. Corp.—approximately \$13 750.

Nov. 1—Gulf Refining Co. announces discontinuance of Ethyl gas sales "in deference to public opinion" until health risk question settled.

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1924—Continued

November, early—Distribution with small ethylizers discontinued; shipments confined to drums, for bulk mixing.

Nov. 14—First semi-works production "in plant unit" by chloride process at Deepwater.

Dec. 4—Mr. Sloan writes Mr. I du Pont that "the unfortunate Bayway circumstance" appears to have gotten out of the Standard Oil people's minds their former insistent desire for an "independent source of supply".

Dec. 5—Deliveries (from enlarged Deepwater bromide process plant) completed under agreement of 1/12/24, total 1 100 000 pounds, 28 days behind schedule account poison troubles. Chloride plant construction practically completed, but leaks discovered under pressure being remedied.

Dec. 10—Messrs. Harrington and Howard canvass poison problem with U.S. Surgeon General Cummings. He will defer investigation to await results of research already in progress at Bureau of Mines and at Columbia University.

Dec. 12—New chloride process plant accepted as practically complete by Dyestuffs Dept. from Engineering Dept. after fourteen weeks' rush construction on three-shift basis, peak force 640 men, approximate cost \$940 000.



Dec. 23—First meeting of Ethyl Gas. Corp. Board in New York; Mr. Irénée du Pont a director. Question of Ethyl Gas. Corp.'s liability for Bayway disaster losses brought up at Board meeting, and proposal made to disclaim responsibility; Mr. I. du Pont points out arrangement was purely an agency contract and Ethyl Gas. Corp. should therefore pay; this view adopted, and settlement later made accordingly.

December, late in month—By agreement between Messrs. I. du Pont and Midgley, du Pont Co. to develop at shore plant G.M. process for producing tribromanilin from sea water; to be reimbursed actual expenditures plus \$20 000 (later increased to \$40 000, when undertaking was broadened) for supervision and incidental research.

Dec. 26—Regular production of tetraethyl lead begins in new chloride process plant at Deepwater.

## 1925

Jan. 12—First shipment of tetraethyl lead made from chloride process plant at Deepwater.

Jan. 13—Decision reached to put experimental bromine extraction unit on ship, to avoid intake stoppage and freezing troubles encountered at Ocean City, Md. shore plant.

Feb. 2—Du Pont-Badische tentative agreement worked out at Ludwigshafen for manufacture of iron carbonyl in U.S. by 65%-du Pont-owned subsidiary. (But see below entries of 4/28/25, 8/10/25 and 1/10/27).

Feb. 10—Ethyl Gas. Corp. reports profit of over \$34 000 earned in January.

1925—Continued

Feb. 13—First death from poisoning in chloride process plant at Deepwater. Prompt shut-down for radical revamping. (Followed by one further fatality in Feb. and two in March, 1925)

March 21—Ethyl Gas. Corp. (Midgley) reports extended tests on iron carbonyl started by G.M. Research Feb. 22 with three Buick cars indicate serious ignition and lubrication troubles, probably requiring spark plug and oil replacement every 1000 miles. This apparently confirmed quick tests previously made by Mr. Kettering in Europe).

March, near end of month—Mr. E. W. Webb, formerly head of G.M. Legal and Real Estate organization at Detroit, tentatively chosen (formal appointment followed shortly), upon initiative and nomination of Mr. Sloan, to head up Ethyl Gas. Corp., succeeding Mr. Midgley as chief business executive.

March 30—Ethyl Gas. Corp. reports \$45,000 loss for February. Sharp curtailment of sales; substantial returns of Ethyl fluid in methylliters.

April 10—Ethyl Gas Corp. reports \$56,000 loss for March.

April 27 to May 4—Experimental cruise of S.S. Ethyl. Results favorable; wireless reports indicate practicability of process is assured.

April 27—Sec.-Treasr. Mitnacht submits upon request of G.M. tentative estimate showing for Ethyl Gas. Corp. probable total losses "if legislated out of busi-

ness" of \$5 300 000, plus indeterminate liability under sales contracts.

April 28—Conference at Wilmington with Badische representatives on iron carbonyl development, attractive as offering possible escape from poison difficulties. Results inconclusive but essentially negative. (See below entries of 8/10/25 and 1/10/27)

May 2—Deepwater bromide process plant operation ended, by direction of Ethyl Gas. Corp., as previously agreed, with production in chloride process plant presumably to continue. (Total production by bromide process was 2 137 071 pounds)

May 4—Ethyl Gas. Board in special meeting surveys poison situation, debates policy, decides to suspend sales. (Suspension vigorously opposed by Mr. I. du Pont)

May 5—All sales by Ethyl Gas. Corp. (except to Gov't) suspended, pending satisfactory determination on poison hazard.

May 5—Du Pont experimental work on bromine discontinued immediately upon Ethyl Gas. Corp.'s suspension of sales; S.S. Ethyl recalled. (Total S.S. Ethyl costs above \$400 000. Substantial incidental benefit believed accomplished for Ethyl Gas. Corp.'s bromine procurement through impression made in minds of world bromine producers)

May 5th-13th—Following suspension of sales, Ethyl Gas. Corp. wants unexecuted part of contract of 10/10/24 (chloride process plant) held in abeyance to await final outcome of suspension. Du Pont Co. pronounces this impracticable, insists on prompt cancellation of contract, liquidation of losses.

1925—Continued

May 15—Ethyl Gas. Corp. reports loss for April of \$122 000, including operating loss of \$61 000.

May 20—Surgeon General holds preliminary conference in Washington of health authorities and others interested; conference requests Surgeon General to appoint committee of seven recognized authorities in clinical medicine, physiology and industrial hygiene to investigate health hazard in distribution and use of Ethyl gas, to report if possible by Jan. 1, 1926.

June 8—Surgeon General announces appointment of committee of eminent medical and scientific authorities to pass on public health risk of Ethyl gas, per action of conference of May 20th.

June 9—Du Pont Co. presents Ethyl Gas. Corp. bill for \$1 922 475 loss from cancellation of contract of 10/10/24, made necessary by suspension of sales. Principle: du Pont to be "made whole" on costs, to forego claim for prospective profits provided settlement made by July 1st (but invoice included \$51 807 "interest on capital invested - - - to July 1, 1925"). Approximately \$160 000 included for cost of research in developing chloride process. Roundly \$1 364 220 included for cost of chloride process plant. (In addition to items billed by du Pont, Ethyl Gas. Corp. also took over burden of various important raw materials procurement contracts. For final adjustment of du Pont contract, see entry of April, 1926. For amortization of plant cost, see entry of 2/2/26.)

June 30—Ethyl Gas. Corp. pays du Pont Co. \$1 500 000 on account of settlement of chloride process contract



cancellation (borrowing the necessary funds from its guarantors, G.M. and Standard Oil), with final adjustment of balance to follow.

Aug. 10—Du Pont-Badische tentative agreement of 2/2/25 on iron carbonyl manufacture called off by Badische on indications that iron carbonyl will probably not replace tetraethyl lead for anti-knock use by reason of indicated injurious effects on ignition and lubrication. (But see below entry of 1/10/27)

October, about middle—Surgeon General's Committee inspects Deepwater tetraethyl lead plant. Impressions evidently favorable, and reassuring as to safety of manufacture.

Dec. 31—Ethyl Gas. Corp.'s accumulated deficit thus far taken up on books reported at \$1 420 777; loans from G.M. and S.O. \$4 012 054. (In 1926, deficit passed \$2 000 000, loans \$4 500 000)

## 1926

Jan. 17—Surgeon General's Committee presents report: No sufficient grounds discovered for prohibiting distribution and use of gasoline containing standard proportion (not over 1:1 300 by volume, or 3 cc per gal.) of tetraethyl lead. Recommends Surgeon General's Office formulate suitable regulations to govern manufacture, distribution and use. (Recommends also further study, as experience accumulates)

Feb. 2—Executive Committee appointed for Ethyl Gas. Corp., made up of Messrs. Sloan, Howard and Webb.

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## 1926—Continued

Feb. 2—Ethyl Gas. Corp. Board orders "that the cost of construction of the du Pont chloride process tetra-

ethyl lead plant, amounting to \$1 364 219.83, be carried on the books as a contingent asset, to be written off over a period of 5 years". (In letter accompanying invoice of June 9, 1925, Mr. I. du Pont had said, referring to the possible future resumption of manufacture, "We can, however, agree that in making a price, should you desire it, we will not include in cost any item of amortization of the plant which has already been paid for").

March—Pending resumption of sales, a radical difference of view sharply developed as to the proper marketing strategy for Ethyl Gas. Corp. Mr. Irénée du Pont stood out vigorously for a free selling policy, with insistence only on proper safety precautions and on quality maintenance in fuel sold as "Ethyl gas"; insisted Ethyl fluid should be sold freely to all reputable would-be customers for use in their own private brands in any proportions within the limits prescribed by the Surgeon General, leaving their own self-interest to govern quality. The opposite view, firmly maintained by Messrs. Webb, Sloan and Donaldson Brown, held out for a continuance of rigid standardization, restricted selling, and development of consumer demand for "Ethyl gas" through national advertising and strict maintenance of uniform anti-knock standards. This restricted policy prevailed, and was continued generally until the adoption of the "Q" Brand plan in April, 1933. (See Exhibit "F" for a representative statement of Mr. du Pont's view. See volume curve of Exhibit "E" for apparent comparative results.)

✓ March 31—New du Pont-Ethyl Gas. Corp. contract entered into for manufacture of tetraethyl lead; also first contract for blending. Previous provision requir-

ing du Pont to assign all patent applications excluded, through convincing objection of Mr. I. du Pont that the inevitable result of thus withholding normal incentive would be to discourage progress, rob tetraethyl lead development of du Pont research potential.

April—Final adjustment made of du Pont claim for contract cancellation resulting from Ethyl Gas. Corp.'s suspension of sales, bringing total paid du Pont Co. to \$1 821 033 (slightly reduced by subsequent small credits for recoveries of materials at Deepwater).

May 1—Selling resumed by Ethyl Gas. Corp., after one year's suspension lacking four days.

May, latter part—Mr. Webb in Denver, makes tentative ten-year contract with small local concern (American Research Laboratories), claiming low-cost new process, to manufacture tetraethyl lead for Ethyl Gas. Corp. This fate-temping venture promptly abandoned on emphatic protest of Mr. I. du Pont, as director of Ethyl Gas. Corp.

June 1—Manufacture of tetraethyl lead resumed at Deepwater, in chloride process plant, after extensive re-conditioning.

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1927

Jan. 10—Contract made by G.M. and Ethyl Gas. Corp. with I.G. looking to joint world exploitation of iron carbonyl for anti-knock, with mutual recognition of patents and with right conferred upon I.G. to manufacture Ethyl Gas. Corp.'s requirements. (Apparently, this contract is still dormant).

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June 20—Ethyl Gas. Corp. contracts with Anglo-American Oil Co. to mix and distribute "Ethyl petrol" in Great Britain. (See below entry of February, 1928)

July 3—Chrysler announces new high compression motor to take fullest advantage of modern anti-knock fuels.

Dec. 21—Death of Deepwater lead smelter worker, pronounced by Dr. J. P. Leake of U.S. Surgeon General's staff "presumably due to exposure not to tetraethyl lead, but to inorganic lead".

#### 1928

Jan. 12-19—Broad exchange of views by correspondence between Messrs. Sloan and L. du Pont as to future volume and price outlook. Mr. du Pont suggests possibility of drastic price reduction with ten-fold volume increase; holds with Mr. I. du Pont that big expansion opportunity for tetraethyl lead has been foregone to protect oil interests. Mr. Sloan dissents, apparently identifies restricted selling of Ethyl fluid with policy of standardization; is concerned about threat to Ethyl Gas. Corp.'s business in improved cracking methods. (Five years later, with adoption of free selling policy in 1933, volume was increased at once to more than 7 times that of 1928, with 64% reduction in du Pont price to Ethyl Gas. Corp. since 1928. See Exhibit "E")

February—Agitation starts over introduction of "Ethyl petrol" in Great Britain. (Attacks by one or two men of prominence in scientific circles and sensational campaign of London Daily Mail followed, with final vindication by public health authorities as in U.S., but without any comparable commercial success to date).

June 26—New York City Health Board's prohibition on sale of Ethyl Gas, adopted 4/30/24, is rescinded.



Nov. 14—Du Pont Co.'s license to make tetraethyl lead by chloride process under Standard Oil's (Kraus & Callis) patents is extended by Ethyl Gas. Corp. to include uses other than motor fuel upon payment of 5% royalty.

## 1929

Apr. 1—Standard Oil Co. of Indiana contract expires, last exclusive arrangement; all U.S. territory thrown open for Ethyl gas sales. (This contract, with similar exclusive arrangements in favor of Standard of New Jersey and others, had been inherited by Ethyl Gas. Corp. from its predecessor, The G.M. Chemical Co.)

July 15—New tetraethyl lead plant at Deepwater starts operation, completed a month ahead of schedule, but with cost increased \$75 000 by rush construction, resulting (in accord with the general previous experience) from lack of sufficient advance notice from Ethyl Gas. Corp.

—B-10—

## 1929—Continued

November—Ethyl Gas. Board adopts decision to license reputable ~~refiners~~ to use tetraethyl lead in private brands. (But only, it appears, in premium grade gasoline, standardized with "Ethyl gas" as to anti-knock rating, though not bearing the "Ethyl gas" name and trade mark design)

## 1930

Feb. 26—New du Pont-Ethyl Gas. Corp. contract. First inclusion of provision requiring exchange on Jan. 1, 1938 of all technical information and patent rights on tetraethyl lead manufacture. "Formulation of con-

tract completed and document signed in April, but made as of 2/26/30)

May 28—Du Pont gives Ethyl Gas. Corp. two-cent concession under contract rates (making scale 58-53 cents), as aid in price reduction to meet competition of best unleaded gasolines.

Nov. 5—Surgeon General gives assent to selling tetraethyl lead for use in "regular gasoline" (the standard, non-premium brands), up to 1.5 cc per gal.

### 1931

Fall—Use of tetraethyl lead in non-premium gasoline inaugurated in Canada. (Big expansion of use follows)

Nov. 10—Plan for licensing use of tetraethyl lead in "regular gasoline" (the standard, non-premium brands) proposed by Ethyl Gas. Corp. at annual meeting of American Petroleum Institute in Chicago. Application of plan withheld upon immediate, vigorous, almost unanimous, objection of trade.

### 1932

February—Anti-knock quality resulting from tetraethyl lead believed demonstrated to be superior to that resulting from cracking. Mr. Sloan reports plan for long-term co-operation between automotive and oil industries to bring about better utilization of full potential of tetraethyl lead.

Dec. 30—Noteworthy, statesmanlike letter of exposition and friendly counsel from W. T. Holliday, President, Standard Oil of Ohio, to Ethyl Gas. Corp.: Urges that tetraethyl lead be released for use in standard grade, non-premium gasoline. Initial superiority of "Ethyl

gas" overcome by improved cracking methods and highest gas from California crudes; standard, non-premium brands now equal to original "Ethyl", bringing in cheap third grade, practically equal to gasoline in general use before Ethyl gas came in. Three-cent premium no longer justified by practical results with motors in general use; "Ethyl gas" now on patent medicine basis. Sun Oil people gloating that "the Ethyl picture is washed out", offering to bet there'll be no Ethyl in five years. Tetraethyl lead route to high anti-knock quality better and more economic than cracking, if arbitrary barrier to use removed.

—B-11—

1933

April 19—"Q" Brand plan finally put into effect, for use of tetraethyl lead in standard grade gasoline, non-premium brands, to be below Ethyl gas in octane rating (about 70 vs. 78) and price. (Tremendous expansion of volume follows. Du Pont 1933 sales of tetraethyl lead  $2\frac{1}{2}$  times 1932; 1934 sales near 50% over 1933; 1935 near 25% over 1934. See Exhibit "E".)

September—Ethyl Gas. Corp. officers bring forth abortive scheme to "mutualize" their company, incidentally taking over manufacture of tetraethyl lead. Sec. Treasr. Mitnacht explains: Ethyl-du Pont relations not on "a permanently sound basis"; Ethyl Gas. Corp. "not in control of its own business"; "economic absurdity"; wants "clean-up of an impossible situation". (Scheme shortly dropped as utterly impracticable, after being questioned by Mr. L. du Pont. Initiative apparently had been with Mr. Howard, of Standard Oil.)

1934

Feb. 15—Mr. Webb writes Mr. I. du Pont that Ethyl-Dow Chem. Co. has been organized to establish sea water bromine extraction plant on North Carolina coast.

Dec. 15—Mr. I. du Pont cautions Ethyl Gas. Corp. against reported intent to set up I.G. in tetraethyl lead manufacture in Germany, thereby disclosing secret information of military importance.—But subsequently, U. S. Government assent was secured for the transmission of this information, and the du Pont Co. has actively co-operated in giving direct instruction and expert assistance to foreign producers.

1935

Feb. 8—Mr. Mitnacht gives highly favorable report of operations and profits of Ethyl-Dow Chem. Co.

April-May—Mr. Webb, in Europe, closes agreements with I. G. for manufacture of tetraethyl lead in Germany, and with Montecatini for manufacture in Italy. (Previously, "on-request" agreements had been made by Ethyl Gas. Corp. in 1928 with the British Air Ministry and in 1931 with the French Government)

Dec. 20—Present du Pont-Ethyl Gas. Corp. contract entered into, for year 1935. Price 28 cents. Provision continued for exchange of manufacturing information and rights on Jan. 1, 1938.

Dec. 30—Du Pont Co. acquires 50 shares of Ethyl Gas. Corp. stock by purchase from General Motors.



EXHIBIT "C"INITIAL DESCRIPTION OF THE "NEW DOPING COMPOUND"

The memorandum below was transmitted by Mr. P. S. du Pont from Detroit to Mr. Irénée du Pont on March 24, 1922, as "a brief report on the gasoline 'dope' situation", with the comment that "The development looks very promising".

Memo Re: DOPING OF FUEL.     Detroit, 3/24/22

Mr. Kettering stated that his new doping compound, Tetra-Lead-Ethyl, may be used effectively in the proportion of one gallon to 1,000 or 1,500 of gasoline. The use of this dope will result in a saving of at least one quarter of the gasoline ordinarily consumed in an engine, and will permit of increasing compression very materially. The cost of the compound, at the rate of 100 gallons per day, should be not more than \$5 or \$6 per gallon, and he believes the factory can be erected for \$50,000.

The compound is made by preparing ethyl iodide from alcohol and iodine, permitting this to be acted upon by zinc dust plated with copper, the plating being necessary to produce the reaction. Zinc-ethyl is formed and is distilled off. Zinc ethyl is highly inflammable when exposed to the air, but Kettering believes no more dangerous to work with than hot oils. Zinc Ethyl is brought into contact with dry lead chloride, which forms zinc chloride a compound  $Pb_2(C_2H_5)_4$ . This compound further breaks down into metallic lead and tetra lead ethyl  $Pb(C_2H_5)_4$ . Lead ethyl is a colorless liquid of sweetish odor, very poisonous if absorbed through the skin, resulting in lead poisoning almost immediately. In practice Kettering recommends that the

4756.

material be made ill-smelling through the addition of some pungent material, in order to avoid danger of poison by inhaling the fumes.

In order to start the use of this material, Kettering proposes that Cadillac design a new cylinder head, increasing compression (this is now being done). Every Cadillac car equipped with this new head will be provided a gas tank containing in a separate compartment two metallic bottles, each containing a quart of lead ethyl. These bottles will be sealed with a metallic seal, which will be punctured automatically when the bottle is placed in position for use. A small hand pump will deliver a charge sufficient for five gallons of gasoline at one stroke, so that as the gasoline tank is filled, one stroke of the pump to each five gallons will supply the necessary dope. An over-supply does not result in any injury, and an under-supply would quickly be shown in the knocking of the engine, so that mistakes would not be serious. The two flasks would run a Cadillac car 7,500 miles, so that the recharging feature would not be serious.

Without dope the car would be operated successfully at half throttle, i.e. would not be useless. With the dope, the car would have an additional 25% horsepower, and gasoline consumption would be materially reduced.

In order to make this program effective, a plant of 100 gallons daily capacity should be erected. The next step in the program would be to try to introduce the dope as a commercial article supplied with the gasoline. It would require about 4,500,000 gallons per annum to dope the entire gasoline supply.

Kettering would like to take up the question of manufacture with the du Pont company representatives at an early date.

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EXHIBIT "D"DEATHS FROM T.E.L. POISONING—  
NUMBER, SEQUENCE, LOCATION

Sept. 21, 1923—Deepwater, Bromide Process Plant—Frank W. Durr, Operator.

April, 1924 (or early May)—Two deaths at Dayton, O.—General Motors Employees.

July 30, 1924—Deepwater, Bromide Process Plant—Giuseppe Cianci, Laborer (Sludge).

Aug. 12, 1924—Deepwater, Bromide Process Plant—Frank A. Hanley, Pipefitter, Engineering Dept.

Oct. 20, 1924—Deepwater, Bromide Process Plant—Sim Jones (Colored), Laboratory Helper.

Oct. 25, 27, 28, 29 & 30, 1924—Five deaths, one each day, in quick succession within one week, at Bayway, N.J.—Standard Oil of N. J. employees, in semi-works size operation.

Feb. 13, 1925—Deepwater, Chloride Process Plant—Fred W. DeFievre, Operating Helper.

Feb. 16, 1925—Deepwater, Chloride Process Plant—Robert Huntsinger, Operator.

March 10, 1925—Deepwater, Chloride Process Plant—Loring M. Boody, Millwright Helper, Engineering Dept.

March 23, 1925—Deepwater, Chloride Process Plant—James Connell, Millwright, Engineering Dept.

Recapitulation:

<u>Du Pont— Bromide</u>	<u>Du Pont— Chloride</u>	<u>Total Du Pont</u>	<u>General Motors</u>	<u>Stand. Oil of N. J.</u>	<u>Grand Total</u>
4	4	8	2	5	19

Supplementary Note—In connection with the above deaths definitely attributed to tetraethyl lead poisoning, the following three cases appear to require mention:

1. About Sept. 26, 1924, a young Irish chemist named Becker, after brief employment in the laboratory at Bayway, toward the end of which he was observed to be in a state of great nervous strain, committed suicide by jumping from a window of a New York hotel. Though not so interpreted at the time, the circumstances, in comparison with the subsequent experience in a number of cases, strongly suggest that the real cause of this death was tetraethyl lead poisoning.
2. Harry G. Baker, one of the workers affected in the early 1925 outbreak of poison troubles in the chloride process plant at Deepwater, was sent to the Salem Hospital; afterward was maintained by the company for some months under special treatment; and in November or December, 1925 was finally committed to the New Jersey State Hospital for the Insane, at Trenton, where he is still confined.
3. Walter Carter (Colored), a worker in the lead smelter at Deepwater, died Dec. 21, 1927. Dr. J. P. Leake, of U.S. Surgeon General's staff, notes that this death was "presumably due to exposure not to tetraethyl lead but to inorganic lead".



EXHIBIT "E"

YEARLY SALES VOLUME AND PRICES OF TETRAETHYL LEAD

4759

<u>Thousands of Pounds Sold</u>			<u>Avg. Price Received</u>	<u>Thousands of Pounds Sold</u>			<u>Avg. Price Received</u>
1923	23		\$1.997	1930	17 037		\$.607
1924	1 257		1.955	1931	15 432		.559
1925	1 046		1.619	1932	9 935		.478
1926	657		1.433	1933	24 033		.370
1927	1 769		1.276	1934	35 635		.342
1928	3 400		1.030	1935	44 245		.314
1929	7 999		.830	1936	Not over .28		

Note: From the Ethyl Gas. Corp.'s viewpoint, in accord with the 2/2/26 entry of Exhibit "B", it would seem that the above price figures for the period of approximately 1926 to 1930 inclusive should be increased to cover amortization of the plant construction cost which the Ethyl Gas. Corp. paid for in the contract settlement following the suspension of sales. The amount of this increase would be about \$.044 per pound.

Millions Lbs. Sold    Price per Lb.

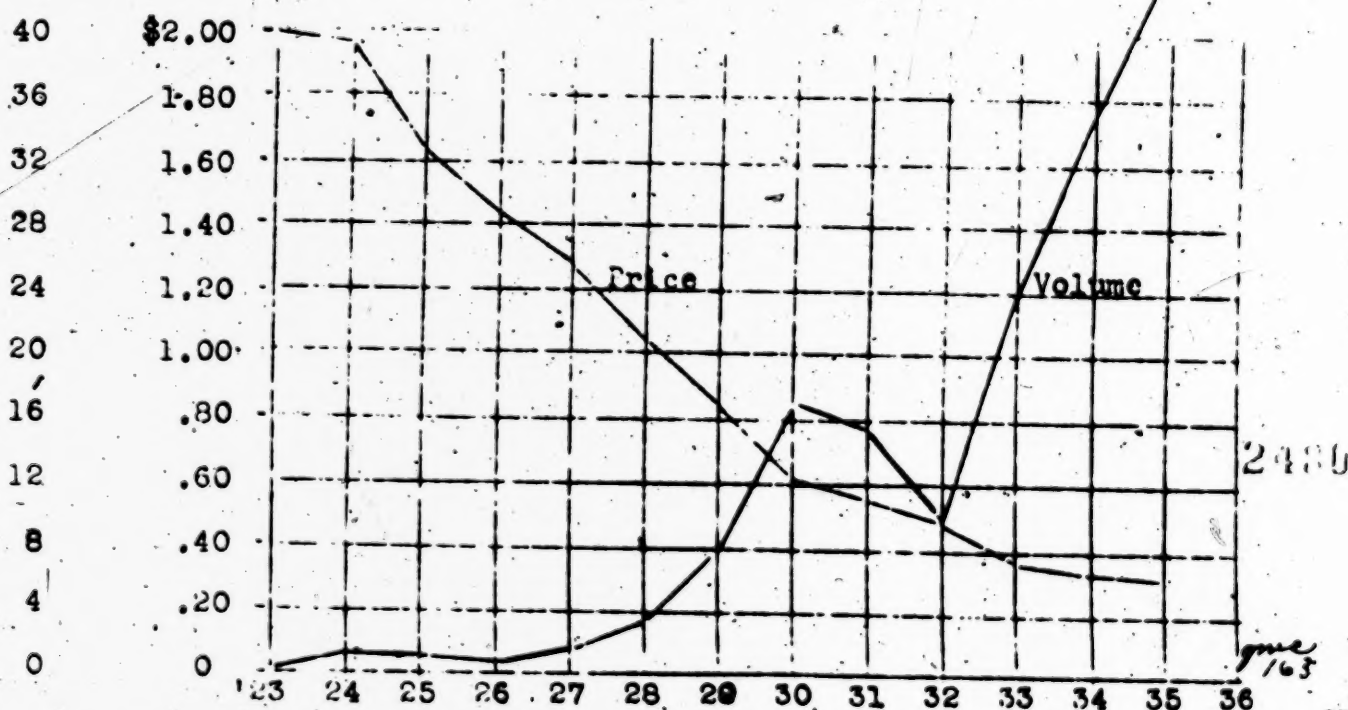


EXHIBIT "F"MR. IRÉNÉE DU PONT'S VIEWS ON CORRECT MARKETING  
POLICY

The following letter is typical of numerous indications in the files that the policy of free selling, which was finally made effective in April, 1933, with the highly successful results indicated in Exhibit "E", had from the beginning been vigorously and persistently urged by Mr. du Pont upon his associates.

June 22, 1927.

Mr. Alfred P. Sloan,  
224 W. 57th Street,  
New York City.

Dear Alfred:—

In case I didn't make myself clear to you in the Directors meeting of the Ethyl Gas Corporation, am writing you this in an endeavor to give you my line of reasoning:

The Ethyl Gas Corporation has at its sole disposal a material which can improve the anti-knock qualities of gasoline; it has no natural or artificial ability that large oil companies have not; which will enable it to standardize the quality of gasoline from a vaporization point of view. In our endeavors to maintain the quality of gasoline to make valuable the trade mark "Ethyl" we have undoubtedly succeeded in restricting the use of ethyl lead to a considerable extent. Surely our forecasts of a few years ago have not been met in volume of business. We must be restricting our customers for otherwise why would the Standard Oil of New Jersey refuse to adopt the trade mark "Ethyl" at all? In other words, if we have made it so onerous for gasoline

companies to sell our product, and in addition have fixed it so that the man at the pump makes no additional profit by serving ethyl gas, then we have done everything we can to discourage the expansion of the use of ethyl gas.

I think it is time to "about face", insist to the Surgeon General that large and reputable gasoline companies are just as competent as we are to safe-guard the man that does the mixing, and they are just as responsible as we are for any criminal negligence. In view of the history in the past year it seems to me sure that the Surgeon General will agree with such a point of view. We should then sell Ethyl fluid to any large reputable seller of gasoline to be used as he sees fit. We could contract with him that he could not use the word "Ethyl" in connection with his trademark unless he puts sufficient of the Ethyl fluid in the gas so that the product would measure up in anti-knock qualities to our standard, whatever that may be. This should at once largely increase the sale of Ethyl fluid and enable the Ethyl Gas Corporation to begin making money in volume.

Very truly yours,

(Signed by  
Mr. Irénée du Pont)

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NOTE: At lower right of all pages is written "GMC 1638"; lines in left margin on fifth and eleventh pages and check mark on ninth page are by hand.

